THE AUTOMOBILE

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What the A.L.A.M. Makers Proudly Present for 1908

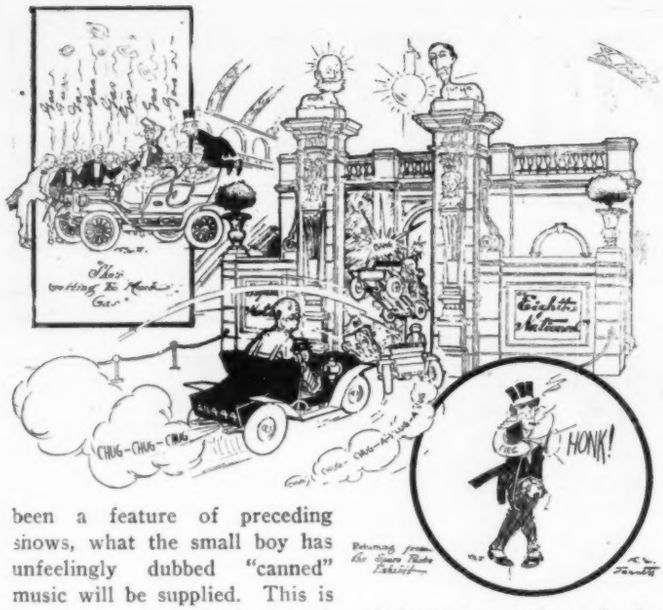
IT was the "Garden" which first gave a place to the automobile, and when one remembers that modest space in the bicycle show, next the exhibition with its play track and the elated passengers who had their first rides, and the wonderful hill-climbing stunt on the roof underneath the astonished gaze of Diana of the Seville-copied tower, and then the beginning of the real automobile shows, there is a feeling of "home-coming" as you wend your way to the big amphitheater to look at the latest product of the pioneer makers of the country, and one knows that the new models will be displayed pleasingly and comfortably.

From a study of what is known in advance, it would appear that the annual show of the Association of Licensed Automobile Manufacturers, opening on this Saturday night, will give a display of motor-driven vehicles far in advance of anything ever before presented by the American makers, who now challenge, without any hesitancy, comparison with the best efforts of the European concerns, from whom, it is confessedly admitted, much has been learned, though to this information much is now added which enters into the making of the staunch and reliable automobile that in a single day can excel the total mileage of a score of horses, and still be found willing to duplicate the distance if necessary.

The setting prepared by the Show Committee of the A. L. A. M. is "rich, not gaudy," and Director Ball has never done anything better. The terraced garden supplies a setting that is an exemplification of simplified elegance, the blending of French grays and rich cardinals, interspersed with natural flowers and some statuary, is harmoniously accomplished. The 1908 models, with lustrous bodies of various hues and shining brass and nickel, can hardly fail to have their attractiveness enhanced by the surroundings, for the Garden will scarce be recognized by the frequenters attracted to its familiar precincts by the ever-changing category of events which go to make up its varied career.

For most affairs the Garden has room and to spare, but the increasing demands on the part of automobile exhibitors for space began to be felt three years ago, so that the management has been forced to adopt one expedient after another that would enable it to provide additional floor space within the four walls of the structure. The plan adopted last year of building platforms to overhang the balcony seats, and by which 10,000 square feet of floor space for the exhibition of cars was gained, has again been utilized, while every available square foot of space in the Garden's numerous annexes, such as the concert hall, restaurant, and basement has been pressed into service. In the concert hall a departure has been made from the decorative scheme prevailing in the ampitheater, by having it as an adjunctory rose garden, set with latticed arbors in green and white. Access to it is through an arched entrance, with double diagonal lattices framed in white, and a central dividing lattice down the center of the room, while the walls under the balconies and back of the stage are finished in the same manner. The bareness of the basement floors and walls has also been appropriately covered, making it a far more attractive part of the show than it was in the first years that it was utilized for this purpose.

In place of the time-honored brass band that has always



been a feature of preceding shows, what the small boy has unfeelingly dubbed "canned" music will be supplied. This is the introduction of the Telharmonic service in place of the band, and it will be the first time that this electric music will be heard in such a large amphitheater. Special cables have been strung through the conduits of the telephone company in Twenty-sixth street and the apparatus is already installed.

Where the cars themselves are concerned, it is quite evident from advance reports that the six-cylinder note is to be predominant. No less than eleven models of this multi-cylinder type will be revealed, of which eight or nine will be shown publicly for the first time. Though greatly in contrast with former years they have been ready for some time since and have not been completed just in time to get into the show. Under the new A. L. A. M. rating, which has been followed by the majority of the association's members, they range in size from 42 to 70 horsepower, the minimum cylinder bore being 4 1-8 inches and the maximum 5 inches. For the first time, cars will be rated in odd and unusual figures, such as 43, 45, and 46.6 horsepower, which represent some of the official powers of the six-cylinder models in question, and the contrast between this and the former practise of crediting a motor with an output of 45-50 horsepower, or more widely varying limits, cannot fail to be noticed. Most of these six-cylinder models are to be staged in the shape of seven-passenger touring cars, though there will be a few representatives of the roadster type as well.

Where the remainder of the cars are concerned there will be 33 different types, or rather different makes, of gasoline pleasure vehicles shown, nine different makes of electrics, one steam-driven make of cars, the first complete showing of motor-cycles ever brought together in the country, besides a number of both gasoline and electric trucks, the showing of the former being larger by far than has characterized this end of the show in former years. But then this is also true of the show as a whole, for as compared to the total of 225 individual exhibitors of last year, that apparently took up every inch of space from basement to roof, the management has been able to juggle with the interior of the Garden so that its present capacity as revealed by a tabulation of the show is something like 325 exhibitors—a number that is said to be the largest ever assembled under a single roof at an automobile show. Yet, for all that, the interior of the Garden as a whole will present a much more open and less crowded aspect than has been the case in the past two or three years when there were considerably fewer exhibitors.

Probably the chief thing to strike the average visitor, who, while observant, recks not of automobile associations or the ties that bind them, is the striking degree of uniformity that marks the product of the exhibitors. Not that all are alike by any means, nor that they are characterized by a degree of sameness that tends to make them uninteresting, but the fact that all reveal an air of settled design that speaks plainly of a closely followed policy of conservatism in the draughting room, is unmistakable. In other words, it is amply evident that, so far as the numerous makers gathered in the Garden are concerned, the day of experimenting is long since past and it is no longer possible to find the product of ripe experience at one exhibit and the first stages of haphazard experimenting as its neighbor. This is a respect in which the association of American makers, under whose auspices the Garden show is held, is unique, as, with one or two exceptions, they were all recruited at a time when the industry in general, and automobile design in particular, was in a state of chaos. They emerged from that state triumphant, and in their product as it will be revealed by the show is strikingly displayed the results of organization and co-operation, despite the fact that many of these manufacturers are producing widely divergent types of motor-driven vehicles selling at various prices.

They are a tribute to the American industry, and in this connection it is well to remark that this is the first thoroughly American automobile show that the Garden has housed in its seven years or more of sheltering the power-driven vehicle. If we were half so rampantly patriotic as our cousins of over seas—the Britishers—we would have long since coined a new compound to describe our cars. It would be "all-American"; but unlike its prototype that is used so much in the "Tight Little Isle," and means so little, it would not represent cars made of French or German parts and assembled after having passed the customs barrier. With the exception of a stray parts exhibit here and there that is virtually lost amid the scores that surround it, there is nothing to suggest the existence of such a thing as a great industry of the same kind in several different countries on the other side of the Atlantic. There is not a car of foreign origin in the entire show, and this eighth show marks an epoch.

CHARLES CLIFTON
President and Member of Show Committee

E. H. CUTLER
General Manager A. L. A. M.

COL. GEORGE POPE
Chairman of Show Committee

MARCUS I. BROCK
Assistant General Manager A. L. A. M.

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THE A. L. A. M. AND PROGRESS OF THE INDUSTRY

By HARRY T. CLINTON, A. L. A. M. Publicity Department.

STATISTICS show the phenomenal strides made in the manufacture of automobiles and the rapid growth of an industry that three years ago was hardly out of swaddling clothes. In 1899 a few manufacturers had the courage of their ideas and attempted, in the face of adverse sentiment, to make automobiles. At that time the capital invested was $5,768,000, while the amount of business for that year was $4,748,011. In 1904 the records show about $35,000,000 employed to do $26,645,064 worth of business. For the year 1907 the business done will be four times as much as 1904, or nearly 133 per cent. increase in business each year.

The estimates for this year show that directly and indirectly there is $171,448,769 invested in the manufacture and sale of automobiles and accessories, while the gross amount of sales of automobiles alone will be over $100,000,000. To produce this amount of business it requires 58,000 men directly interested in the manufacture or sale of automobiles and 29,500 men indirectly interested, making a total of 108,500 men directly and indirectly interested in the manufacture and sale of automobiles and accessories.

In 1903 the total output of American manufactured cars amounted to $16,000,000. Of these, $13,000,000 were manufactured by members of the Association of Licensed Automobile Manufacturers. In 1904 $26,500,000 were sold; $21,000,000 by the licensees under the Selden patent. In 1905 the total was $42,000,000, of which $32,000,000 were licensed cars, and in 1906, $59,000,000, with the members who manufactured under the Selden patent doing $46,000,000 of the total amount.

Why the Licensed Association Was Formed.

The organization of the Association of Licensed Automobile Manufacturers is well known. The fundamental patent on the compression gas engine, which was granted to George B. Selden, was the basis for its organization. The leading manufacturers and importers in 1903, after a thorough investigation into the merits of the patent, became convinced of its validity and protected themselves, their dealers, and the users of their product, by securing a license. These licensees were the organizers of the Association. From the start, the Association has had two objects—the protection of its members as regards their patent rights and the development of the industry.

From its organization a vigorous prosecution of infringements of its patent rights has been maintained. Some manufacturers, evidently not realizing the liability that they, their dealers, or the buyers of their cars were assuming, in producing or using cars contrary to the legal rights given a patentee, were sued for infringement. How persistently the prosecution of the test case was maintained is told in the volume of evidence now on record, making it one of the most voluminous in patent litigation. The defense has, however, introduced nothing material that was not known to complainants before the bringing of the suits. Complainants' testimony was closed in January last, and the case would have been ready for final argument this spring if defendant had not asked for additional time for taking surrebuttal testimony. Aside from this test case, many other suits have been brought, mostly against users, for infringement of the patent, and many decrees have been entered holding that it is valid and that defendant had infringed the same. In some of these cases little testimony was heard, in others the contest continued for years. In a few cases defendant was allowed to settle by paying royalty and taking a license, and in some the court has awarded not only costs and damages to the owners of the patent, but has granted perpetual injunctions, restraining defendants from further use of the cars.

Instrumental in the Evolution of the Automobile.

That the many departments of the organization have been instrumental in the evolution of the automobile to its present standardized condition is shown by the results each department has attained. In the Mechanical Branch, however, the greatest tangible evidence of this progress can be seen. It became apparent, as far back as 1903 and 1904, that to reach a point of perfection in motor car construction some standard form of construction, standardized material, and design would have to be reached, and this could only be done by the mutual co-operation of the larger manufacturers.

The Mechanical Branch was formed for this purpose, and consists of the chief engineers and factory superintendents of the 32 leading manufacturers who are members of the Licensed Association. The keynote of the Mechanical Branch is its experience meetings, interchange of ideas toward co-operative and intelligent standardization, which results in improved automobile design and production, the comfort and convenience of the public, and the general imparting of sound information to the industry and its allied arts and sciences.

The accomplishments of the Branch have been many, resulting in both direct and indirect benefits to the manufacturer and user. The A. L. A. M. screw standard, the adoption of a universal size for all nuts, bolts and screws used in the construction of automobiles has been one of the greatest standards used in any industrial individual enterprise, and the adoption of standard spark plugs and universal formula for computing horsepower rating are of equal importance to the screw standard. In the

A. N JERVIS. H. T. CLINTON. HARRY CALDWELL.
THE A. L. A. M. PUBLICITY TRIO.

former the many inconveniences caused by the varying sizes of spark plugs has been eliminated, and the latter is an epoch-making innovation in the industry.

Tires and rims have come in for their share of attention. Not so long since, the tire and rim situation was in an almost chaotic state. Many sizes of tires were in the market—too many for economy or convenience to manufacturer or user. Intelligent interchange of ideas of the tiremakers and engineers of the Branch resulted in a revision of sizes and decreased the number used from 23 to 11, the latter being adequate for all demands.

In the standardizing of steel tubing, rods, magnetos and many other component parts of a car the hallmark of progress is stamped on every car made by the engineers of the Branch.

The Experimenting Laboratory at Hartford.

At Hartford a laboratory for exhaustive tests and scientific experiments in metals, oils, rubber and other materials is maintained by the Branch, and the results are not only recognized by the automobile manufacturers of the Association, but are acknowledged in all branches of engineering and by the various Government scientific departments. It must be noted that while the Engineering Branch of the organization has been hard at work, the other branches have not been neglected.

Another feature and one of moment is the Exhibition or Show Committee. To the first Show Committee of the Association the credit of bringing order out of chaos in regard to automobile shows is due. Prior to that time very little system was used in the promotion of exhibitions. The exhibitors were required to arrange for their own decorations, signs, lighting and display of goods. No thought, care or taste was used, with the result far from artistic or even pleasing, it being a mere hodge podge and jumble of booths, cars and sensational advertising literature.

The committee was the first, and is still the only body, to provide rules to prevent overcrowding of the show by other than the interested public and to exclude mere automobile experimenters from the exhibition. An innovation was the placing of all automobiles of the same nature and power in their appropriate places, making each exhibit complete in itself. It was the first to carry out its conviction that artistic and uniform decorations were the just due of the automobile. This could be better provided for by the management and would insure an artistic ensemble rather than barbarous individual decoration. The thoroughness of the Show Committee is shown in the details of its work. Not only does it provide the decorations, signs, lighting furniture, telephones and transportation of the exhibitors' goods, but a postoffice and messenger service during the week of the show are established, for the exclusive use of all exhibitors and their friends. The Licensed Show is the only one where the profits of the exhibition are rebated pro rata to space rental.

Work of the Traffic Department.

Another valuable department of the Association is the Traffic Department. The growth of the industry has been phenomenal. From $50,000,000 to $100,000,000 worth of automobiles had to be transported from the factory to the consumer, thus creating a high class of freight. The railroads were unprepared and freight cars for this class of freight were scarce. The Traffic Department, knowing the requirements necessary, pointed out to the railroads the advisability of specially constructed cars. At first only a few were put in service, but at present there are over 5,000 freight cars for the exclusive transportation of automobiles. The department has been instrumental in effecting many new classifications of economic value, both in the transportation from and to the factory.

NO S. A. E. MEETING DURING SHOW FORTNIGHT.

Owing to the comparatively short time that has elapsed since the midsummer meeting of the Society of Automobile Engineers, it has been decided not to hold the annual meeting of that body during the course of the New York shows, as has been customary hitherto. The interval has been too short to permit of the preparation of the necessary papers on subjects of interest to the members as well as to the industry at large, and the annual meeting has accordingly been set for some time during January next, possibly during the Importers' show. The Society of Automobile Engineers is the only organization of the kind in the automobile industry that is without trade affiliations of any nature, and, owing to its independent position, is capable of accomplishing a great deal of good. It is the real purpose of this society to supply an open quorum in which can be discussed any subject of general interest in the making of or allied to automobile manufacturing.

A. S. M. E. ANNUAL MEETING IN DECEMBER.

The fifty-fourth annual meeting of the American Society of Mechanical Engineers will be held in the Engineering Societies' building, 29 West Thirty-ninth street, New York, from December 3 to 6. Foundry practice, superheated steam, the utilization of low-grade fuels in gas producers, combustion control in gas engines, tests of producer gas engines, power transmission by friction, and cylinder port velocities will be some of the subjects discussed and on which special papers have been prepared.

NEW HAVEN'S SHOW IS IN PROGRESS.

New Haven, Conn., Oct. 28.—The third annual automobile show of the New Haven Business Men's Association in the Second Regiment Armory was opened Saturday night with a parade in which over fifty cars were in line. The parade started from City Hall, headed by a platoon of mounted police, and a large auto truck gorgeously decorated contained the Second Regiment band. The parade through the principal business streets was enthusiastically greeted all along the line of march.

In the machines were Governor Rollin S. Woodruff, of Connecticut; Mayor Studley, Mayor-elect James B. Martin, city officials, exhibitors at the show, any many invited guests. The show is a success and is the largest auto exhibit held in the State of Connecticut.

BUFFALO'S SHOW TO BE MARCH 9 TO 14.

Buffalo, N. Y., Oct. 28.—Secretary D. H. Lewis of the Automobile Trade Association and the Automobile Club of Buffalo is busy mailing application blanks for the eighth annual automobile show of these organizations, which is to be held in Convention Hall from March 9 to 14. Mr. Lewis has had many inquiries from prospective exhibitors. The show is later than usual, and it is the hope of automobile men that they will have better demonstrating weather than they have had during past shows in this city. The opinion of the Buffalo dealers is that the exact time for a local show immediately precedes the opening of the early spring selling season, and March dates suit their city.

ADVANCES REVEALED BY THE LICENSED CARS

By CHARLES B. HAYWARD.

BY far the greater number of the oldest-established automobile makers which go to make up the body of the great American industry are to be found within the ranks of the A. L. A. M., and on this account one is led to expect that solidity of construction and conservatism of design which naturally follow as a result of well-directed and skillfully organized effort bent on the attainment of a single object—improvement in automobile design and construction. "Old-established," in this connection, does not mean a great deal when held up to the light of comparison with the relative standing of the members of any other well-known industry, but owing to the policy adopted by the Association of Licensed Automobile Manufacturers at its inception, and since rigidly adhered to, its membership roll practically represents what was the flower of the industry at the time of its formation. Many of these may not antedate outside concerns by more than a year or so—others not at all, as some of the very oldest are to be found without the Selden pale, yet the benefits of co-operation are visible in the design and construction of the "licensed" cars as a whole.

What Is New in Motor Design.

Since the purveyors of automobile news for the dailies still adhere to the practice adopted several years ago—when there was considerable reason for it—of hailing every car shown as an entirely new model, describing it as being infinitely in advance of its predecessor of but a year ago, not alone the public, but many otherwise well-informed autoists are led to believe that the show will be responsible for something entirely different than has been presented formerly. As a consequence, they go expecting to find things very much out of the ordinary—just what the new things may consist of they have no definite conception, as the writers in question, having none themselves, were forced to confine their accounts to generalities. Whether many such confidently anticipated finding motors in an inverted position, or placed on the rear axle, with similarly unlookedfor changes, is hard to say, but one and all are disappointed, for motors, transmissions, and other essentials look just the same as they did last year. And they are the same. Motor design and construction have been brought to entirely too fine a point at the present stage of the industry to have it otherwise, and accordingly improvements are necessarily confined to those matters of detail which do not serve to alter the appearance of the motor, except to the experienced eye.

Motor design may be said to have reached a standard, but it must be borne in mind at the same time, that, even with a standard, there may be varying schools of design, and this is the case where the automobile is concerned. It is merely the old, old story of there being "more than one way to kill a cat," and the designer who advocates valves in the head is quite as confident that he has despatched the feline in the most effective and summary manner possible as his confrère is that he has accomplished identically the same end by placing the valves of his motor in outboard chambers. There are reasons for both of course, and neither is lacking in its good and bad points, of which no one of the many differing designs shown has any monopoly of one or the other. Naturally the important thing is that both do reach the same end, and, in what appears to the layman, to be an equally effective manner. Hence we have motor cylinders cast in pairs and cast separately, with valves in the head, on one side, and on both sides, and the makers who adhered to any particular type last year have remained loyal to their faith in its efficiency—hence the sameness which disappoints the visitor who expects to see marvels in the way of radical changes. Of course, there are exceptions. Take the new Thomas which will play the rôle of either a taxicab in public service, or a town car in private use. It is a new design pure and simple. For instance, its four cylinders are like some of those of French origin, cast in a single piece, and in numerous other ways it reveals the nationality of its designer. It also has a thermo-siphon system of water circulation. The same thing holds good of the new Winton "Six-Teen-Six," which is a new development embodying numerous innovations, not the least of which is an ingenious method of self-starting on compressed air, while another consists of housing in the valve-operating mechanism entirely. The Selden in two models and the Lozier shaft-driven six-cylinder car are also entirely new.

Motor Details and Accessories.

It is in the matter of detail that change is to be found and by change, in this connection, is meant improvement, of which evidence is not lacking. In keeping with its relative importance in the internal economy of the automobile motor, the ignition has naturally come in for considerable attention, though it is quite apparent that things have settled down to a standard where this essential is concerned, as much if not more than many other parts of the car. That is, practice is much more uniform in that there are but one or two standards, and the latter vary more on account of the selling price of the car than from the designer's likes or dislikes in this respect. For instance, practically every car shown above a certain price is fitted with dual ignition of one kind or another, a magneto being relied upon for the service end in every case. The fact that the latter may be either of the high or low-tension type is one of the chief differences to be found, though there are occasional instances where both systems are employed on the same motor, the magneto being of the low-tension type. In the great majority of cases, however, high-tension is employed in both systems, and standard accumulator and unit coil outfits are almost invariably employed for the standby, though special systems are employed on some cars, such as the Atwater-Kent on the Thomas Flyers.

On cars above a certain price-limit—and most of the licensed cars come within this category—the magneto has come to form practically an integral part of the motor, probably the Bosch, Eisemann, Gianoli, and Remy figuring most prominently. Where the fitting of duplicate systems of ignition is concerned, there is also a difference to be noted in that there are some exceptions to the practice of making both systems absolutely independent, even to the spark plugs. In these, the same plugs and high-tension wiring are utilized for both sides of the system, an accumulator serving as the current-source with a single coil, usually of the non-vibrating type, acting as a transformer, while the magneto distributor also performs this function for the battery current. The Packard with the Eisemann high-tension magneto is an excellent example of this. Low-tension ignition has not found any new advocates among the licensed cars, though, on the other hand, it has not lost any, this type being represented by the Locomobile with its own special magneto, the Columbia using the Gianoli, and the Matheson and the Studebaker using the Bosch.

Carburetion and the Essentials of Cooling.

American makers have departed considerably from practice current on the other side where carbureters are concerned, as abroad every maker of prominence takes great pains in evolving a system of his own, so that the carbureters of the better-known foreign makes have come to form a distinctive part of their cars. This is also the case here to a certain extent, such cars as the Packard, Lozier, Matheson, Columbia, Stearns, Franklin, Pierce,

Thomas, and a number of others being distinguished by special devices of their own for this purpose; but, on the other hand, there is a very large number who have been willing to let the responsibility for this essential rest where it rightfully seems to belong—in the hands of the specialist—and have adopted stock types of carbureters, such as in the case of the Haynes, Corbin, Winton, Autocar, Cadillac, Olds, Thomas-Detroit, and others, though this practice is more prevalent among newer cars, most of which are not to be found in the licensed fold. Some of the principal makes of carbureters thus adopted are the Schebler, Holley, Kingston, and a few others. In general, it may be said that the chief aim of the American carbureter maker has been simplicity, in contrast with that of his foreign competitor, and as a result, few of the carbureters seen are distinguished by any unusual or bizarre features. Water-jacketing is employed in a few instances, but usually this is confined to exclusive designs. Though using a stock carbureter—the new Holley of the Venturi tube type—the Winton fuel system is unique in that pressure is employed merely to elevate the fuel from the main tank beneath the frame at the rear to a special auxiliary tank holding a pint or two, and mounted on the dash. This gives all the advantages of the gravity system while still permitting the use of a pressure system, at the same time doing away with one of the disadvantages of the latter—that of having to pump in order to raise fuel to the carbureter preparatory to starting.

The details of the cooling system are something that have come in for more or less attention during the past year, and to the practised eye changes that make for better service and greater efficiency are visible here and there. In this connection, there is a decided tendency apparent to clear the motor of everything that partakes of the nature of a makeshift device, such as the fan belt always has been and always will be. Consequently it has been eliminated in numerous instances, such as the Lozier, Winton, Peerless, Franklin, and others, on which simple types of gear-driven fans have been adopted. A novel piece of construction in evidence on the Peerless is the use of a special one-piece fan stamped from sheet steel. Circulating connections have been simplified wherever possible, and looking back but a few years, it is marvelous to note how much has been learned about such an apparently simple thing as the water circulation. The centrifugal type of pump prevails and, owing to its manifest advantages, change was hardly to be expected here. An innovation is to be found in the adoption of the thermo-siphon cooling on the new Thomas town cars, but, as already mentioned, this is really an exotic product, though as a matter of fact it embodies several features which might be adopted by others to advantage. Radiator practice continues unchanged, the tubular fin type being most prevalent, but with a few scattering representatives of the honeycomb type.

Air-cooling is neither more nor less important a factor than it was at this time a year ago, for, as has been set forth repeatedly in these columns, it has long since proved its worth and graduated beyond the probation class. It is represented by the Franklin, Knox, Corbin, and Waltham-Orient cars and the most striking of these is the first-named, its motor having been completely redesigned since the previous show. It now has spherical-shaped combustion chambers, concentric valves, and phosphor-bronze cooling flanges, beside a number of other improvements, all of which have been described in THE AUTOMOBILE. As it is a special design throughout, it can hardly be said to represent a tendency, but a type of its own. Though the weight has not been increased, the power of the motor is greater and the proportion of power to weight correspondingly higher. Both the Knox and Corbin factories are showing what are practically replicas of their familiar designs with water-cooled motors.

To sum up the subjects of motor design both as concerns the foundation of the motor itself, as well as its accessories, there are one or two decided tendencies noticeable. Probably the most prominent of these is the largely increased use of ball bearings, such cars as the Lozier and Stearns incorporating this type of anti-friction bearings in such a number of their moving parts as really to entitle them to the nickname of being "ball-bearing" cars, though they are merely representative instances of the very general advance noticeable in the adoption of this class of bearings. The latter first made their presence apparent in the gear-set and have since become so universally used for this essential that a change-speed gear with plain bearings is indeed a rarity at the present day. But ball-bearing crankshafts and camshafts have since become common, and this is also true of the gear-driven cooling fans now a feature of such a number of cars. Simplicity and higher power with less weight are also noticeable, though it may be said that these incorporate in themselves all the other improvements, as they represent the end sought by the designer.

Tendencies in Transmission Practice.

Though at first sight it would appear as if the adoption of the multiple-disk type of clutch had been very general, observation reveals the fact that the conical type has by no means disappeared, and, in addition, there are a number of special types extant. For instance, the Royal Tourist, Pope-Hartford, Thomas-Detroit, and Columbia still stick to the cone, some with the addition of cork inserts and others without, while the Walter employs an inverted conical type. Where special types are concerned, the Peerless and Stearns use an internal-expanding clutch, the Elmore two-cycle an expanding ring type, and the Haynes a band, while the Cadillac and Hewitt still employ a planetary gear-set. This is also true of the lighter of the two Northerns. But the number that employ a multiple-disk type of clutch is comparatively large, including such makes as the Thomas Flyers, Franklins, Lozier, Pope-Toledo, Stevens-Duryea, and the new Selden.

Coming to the next step in the transmission, the adoption of a sliding change-speed gear of the selective type has become very general—in fact, for cars above a certain size it is almost universal, while it is also to be found in numerous instances on those of lighter powers, the chief difference being in the number of speeds provided. For instance, such cars as the Oldsmobile, the air-cooled Corbin, and the lighter Selden model, as well as the new Winton six-cylinder, are equipped with three speeds forward. The great majority of the larger cars are provided with four forward speeds, though exceptions are to be found here and there, and the same is true where some of the smaller ones are concerned, such as the Locomobile, which is now identical in this respect with its high-powered brother in having a four-speed selective gear-set. The progressive method of operation has been all but eliminated and appears destined to be less and less a factor as time goes on, except in the case of such special systems as the Packard, in which the gear-set is placed on the rear axle and under the same housing as the bevel drive and differential. The larger of the two Northern cars still employs this form, and this is likewise true of one of the models of the Studebaker. Both the Northern and Cadillac still retain the planetary change-speed gear on their smaller cars, and one of the heavy touring cars of the latter make is also thus equipped.

There have been defections from the list of side-chain-driven models, or, to put it more correctly, additions to those that are shaft-driven, as some prominent advocates of the former who have never built any other type of car than chain-driven have still retained the latter, though bringing out shaft-driven types. Instances of this are to be found in the case of the Lozier and the Apperson. As was the case at the last Garden show, the most advanced type of transmission is to be found on the Columbia gasoline-electric, which is a law unto itself, combining, as it does, the standard Columbia gasoline motor with a special type of electric transmission which embodies many points of merit. It has been made the subject of considerable study and has been very cleverly worked out, so that the control has been simplified to a degree akin to that of a street car, the driver having five forward speeds available.

(Continued on page 647.)

WHO THEY ARE AND WHERE THEY ARE LOCATED

GASOLINE PLEASURE VEHICLES.

ALDEN SAMPSON, 2D: Alden Sampson, 2d, Pittsfield, Mass. ....Elev. Plat. 28
APPERSON: Apperson Bros. Automobile Co., Kokomo, Ind. ....Main Floor 12
AUTOCAR: Autocar Co., Ardmore, Pa. ....Main Floor 4
BUICK: Buick Motor Co., Flint, Mich. ....Main Floor 3
CADILLAC: Cadillac Motor Car Co., Detroit, Mich. ..Main Floor 15
COLUMBIA: Electric Vehicle Co., Hartford, Conn. ..Main Floor 11
CORBIN: Corbin Motor Vehicle Corporation, New Britain, Conn. ....Elev. Plat. 30
ELMORE: Elmore Manufacturing Co., Clyde, O. ....Main Floor 6
FRANKLIN: H. H. Franklin Mfg. Co., Syracuse, N. Y. Main Floor 18
HAYNES: Haynes Automobile Co., Kokomo Ind. ....Main Floor 10
HEWITT: Hewitt Motor Co., 10 East 31st street, New York .... Basement 55
KNOX: Knox Automobile Co., Springfield, Mass. ....Main Floor 9
LOCOMOBILE: Locomobile Company of America, Bridgeport, Conn. ....Main Floor 13
LOZIER: Lozier Motor Co., 55th street and Broadway, New York ....Main Floor 8
MATHESON: Matheson Motor Car Co., Wilkes-Barre, Pa. ....Elev. Plat. 25
NORTHERN: Northern Motor Car Co., Detroit, Mich. Main Floor 7
OLDSMOBILE: Olds Motor Works, Lansing, Mich. ..Main Floor 22
PACKARD: Packard Motor Car Co., Detroit, Mich. ..Main Floor 14
PEERLESS: Peerless Motor Car Co., Cleveland, O. ..Main Floor 20
PIERCE: George N. Pierce Co., Buffalo, N. Y. ....Main Floor 16
POPE-HARTFORD: Pope Manufacturing Co., Hartford, Conn. ....Main Floor 21
POPE-TOLEDO: Pope Motor Car Co., Toledo, O. ....Main Floor 1
ROYAL TOURIST: Royal Motor Car Co., Cleveland, O. ....Main Floor 2
SELDEN: Selden Motor Vehicle Co., Despatch, N. Y. Elev. Plat. 27
STEARNS: F. B. Stearns Co., Cleveland, O. ....Main Floor 5
STEVENS-DURYEA: Stevens-Duryea Co., Chicopee Falls, Mass. ....Main Floor 19
STUDEBAKER: Studebaker Automobile Co., South Bend, Ind. ....Elev. Plat. 31
THOMAS: E. R. Thomas Motor Co., Buffalo, N. Y. ....Main Floor 17
WALTER: Walter Automobile Co., Trenton, N. J. ....Elev. Plat. 26
WALTHAM-ORIENT: Waltham Mfg. Co., Waltham, Mass. ....Elev. Plat. 24
WINTON: Winton Motor Carriage Co., Cleveland, O. ..Main Floor 23

STEAM PLEASURE VEHICLES.

WHITE: The White Co., Cleveland, O. ....Elev. Plat. 29

ELECTRIC PLEASURE VEHICLES.

BABCOCK ELECTRIC: Babcock Electric Carriage Co., Buffalo, N. Y. ....Exhib. Hall 32
BAKER: Baker Motor Vehicle Co., Cleveland, O. ....Exhib. Hall 39
COLUMBIA: Electric Vehicle Co., Hartford, Conn. ..Exhib. Hall 38
COLUMBUS: Columbus Buggy Co., Columbus, O. ....Exhib. Hall 36
GENERAL: General Vehicle Co., Borden and Review avenues, Long Island City, N. Y. ....Exhib. Hall 35
POPE-WAVERLEY: Pope Motor Car Co., Indianapolis, Ind. ....Elev. Plat. 38
R. & L. ELECTRIC: Rauch & Lang Carriage Co., Cleveland, O. ....Exhib. Hall 34
STUDEBAKER: Studebaker Automobile Co., South Bend, Ind. ....Exhib. Hall 33

GASOLINE COMMERCIAL VEHICLES.

ALDEN SAMPSON, 2D: Alden Sampson, 2d, Pittsfield, Mass. .... Basement 50
CADILLAC: Cadillac Motor Car Co., Detroit, Mich. .. Basement 52
FRANKLIN: H. H. Franklin Mfg. Co., Syracuse, N. Y. .... Basement 53
HEWITT: Hewitt Motor Co., 10 East 31st street, New York .... Basement 55
KNOX: Knox Automobile Co., Springfield, Mass. .... Basement 41
PACKARD: Packard Motor Car Co., Detroit, Mich. .. Basement 48

TIRE MAKERS ARE MANY AND HAVE MUCH TO SHOW

Ajax-Grieb Rubber Co., 420 East 106th street, New York ....Concert Hall 162
Antioak Tire Co., 200 Broadway, New York. ....2d Tier Boxes 200
Automobile Utilities Co., Boston, Mass. ....3d Tier Boxes 286
Consolidated Rubber Tire Co., 40 Wall street, New York. Balcony 148
Continental Caoutchouc Co., 43 Warren street, New York ....2d Tier Boxes 207
Diamond Rubber Co., Akron, O. ....Mezzanine Plat. 56
Dow Tire Co., 104 West 42d street, New York. ....Basement 205A
Empire Auto Tire Co., Trenton, N. J. ....Basement 265
Empire State Tire Co. ....3d Tier Boxes 292
Firestone Tire & Rubber Co., Akron, O. ....Mezzanine Plat. 91
Fisk Rubber Co., Chicopee Falls, Mass. ....Mezzanine Plat. 108
Goodrich Co., B. F., Akron, O. ....Mezzanine Plat. 114
Goodyear Tire & Rubber Co., Akron, O. ....Mezzanine Plat. 58
G & J Tire Co., Indianapolis, Ind. ....Mezzanine Plat. 61
Hartford Rubber Works Co., Hartford Conn. ....Mezzanine Plat. 113
Healy Leather Tire Co., 1906 Broadway, New York. ..Basement 211
Leather Tire Goods Co., Newton Upper Falls, Mass. ....Mezzanine Plat. 83
Michelin Tire Co., Milltown, N. J. ....Basement 209
Morgan & Wright, Detroit, Mich. ....Mezzanine Plat. 78
Motz Clincher Tire Co., Akron, O. ....Basement 271
Voorhees Rubber Mfg. Co., Jersey City, N. J. ....Balcony 184
Pennsylvania Rubber Co., Jeannette, Pa. ....Mezzanine Plat. 96
Republic Rubber Co., Youngstown, O. ....Balcony 133
Swinehart Clincher Tire & Rubber Co., Akron, O., Mezzanine Plat. 75

TELLING HOW FAR AND HOW FAST

Auto Improvement Co., 316 Hudson street, New York. ....Balcony 141
Hicks Speed Indicator Co., Atlantic avenue, Brooklyn. Basement 269
Hoffecker Co., Motor Mart, Boston, Mass. ....Concert Hall 171
Index Speed Indicator, Minneapolis, Minn. ....Balcony 145
Jones Speedometer Co., 2228 Broadway, New York ....Mezzanine Plat. 95
Lipman Mfg. Co., Beloit, Wis. ....Balcony 138
Loring Auto Appliance Co., 1900 Broadway, New York ....3d Tier Boxes 291
Motor Car Specialty Co., Philadelphia, Pa. ....Concert Hall 165
Smith & Son., S., Ltd., 116 Broad street, New York. ....Basement 255
Smith Mfg. Co., R. H., Springfield, Mass. ....Balcony 142
Stewart & Clark Mfg. Co., 506 Diversey boulevard, Chicago, Ill. ....Mezzanine Plat. 86
Veeder Mfg. Co., Hartford, Conn. ....Mezzanine Plat. 63
Warner Instrument Co., Beloit, Wis. ....Mezzanine Plat. 77
Webb Mfg. Co., Newark, N. J. ....Mezzanine Plat. 74
Winchester Speedodometer Co., 1557 B'way, New York. .Balcony 137

THOSE WHO MAKE THE LAMPS.

Badger Brass Mfg. Co., 437 11th avenue, New York ....Mezzanine Plat. 107
Dietz Co., R. E., 60 Laight street, New York. ....Mezzanine Plat. 64
Gray & Davis, Amesbury, Mass. ....Mezzanine Plat. 62
Edmunds & Jones Mfg. Co., Detroit, Mich. ....Balcony 124
Ham Mfg. Co., C. T., Rochester, N. Y. ....Concert Hall 170
Manhattan Screw & Stamping Works, West End avenue and 67th street, New York. ....Balcony 185
Rose Mfg. Co., Philadelphia, Pa. ....Mezzanine Plat. 111
Rushmore Dynamo Works, Plainfield, N. J. ....Balcony 188

MAKERS OF THE CAR'S COMPONENTS.

American & British Mfg. Co., Bridgeport, Conn. ....Concert Hall 154
Brennan Mfg. Co., Syracuse, N. Y. ....Mezzanine Plat. 69
Gemmer Mfg. Co., Detroit, Mich. ....Concert Hall 166
Globe Machine & Stamping Co., Cleveland, O. ..Mezzanine Plat. 89
Gray-Hawley Mfg. Co., Detroit, Mich. ....Balcony 135
Hartford Auto Parts Co., Hartford, Conn. ....Mezzanine Plat. 80
Merchant & Evans Co., Philadelphia, Pa. ....Basement 210
Muncie Auto Parts Co., Muncie, Ind. ....Concert Hall 176
Perfection Spring Co., Cleveland, O. ....3d Tier Boxes 294
Standard Welding Co., Cleveland, O. ....Mezzanine Plat. 105

Standard Brake Co., 101 West 66th street, New York..Basement 260
Timken Roller-Bearing Axle Co., Canton, O....Mezzanine Plat. 98
Whitlock Coil Pipe Co., Hartford, Conn.....Mezzanine Plat. 104
Whitney Mfg. Co., Hartford, Conn.....Mezzanine Plat. 104
Westinghouse Machine Co., Pittsburg, Pa.....Balcony 186

SHOCK ABSORBERS.

Comstock Shock Absorber Co., 1775 Broadway, N. Y..Basement 270
Gabriel Horn Mfg. Co., Cleveland, O.....Balcony 147
Hartford Suspension Co., 67 Vestry street, N. Y..Mezzanine Plat 93
Hotchkin Mfg. Co., P. N., Chicago, Ill.....Balcony 134
Kilgore Mfg. Co., Old Town, Me.....Mezzanine Plat. 90
Sager Co., J. H., Rochester, N. Y.....Balcony 129
Victor Shock Absorber Co., 1931 Broadway, N. Y..3d Tier Boxes 298

LUBRICATING OILS, GREASE, GRAPHITE, ETC.

Atlantic Refining Co.....3d Tier Boxes 290
Columbia Lubricant Co., of New York, N. Y.....Basement 224
Cook's Sons, Adam, New York.....Balcony 131
Dixon Crucible Co., Joseph, Jersey City, N. J.....Balcony 116
Harris Oil Co., A. W., Providence, R. I.....Balcony 256
Havoline Oil Co., 78 Broad street, New York.....Basement 213
N. Y. & N. J. Lubricant Co., 14 Church street, New York .....Mezzanine Plat. 70
Robinson, William C., & Son Co., Baltimore, Md.....Balcony 149
Stanley, John T., 642 West 30th street, New York.....Balcony 259
Vacuum Oil Co., 29 Broadway, New York.....Balcony 262

TOPS.

Auto Accessories Mfg. Co., Detroit, Mich.....Concert Hall 153
Chase & Co., L. C., Boston, Mass.....Concert Hall 177
Duane & Co., W. J., 1771 Broadway, New York....Concert Hall 159
Manhattan Auto Top & Body Co., 247 West 64th street, New York .....Basement 217
Rands Mfg. Co., Detroit, Mich.....Concert Hall 157
Sprague Umbrella Co., Norwalk, O.....Concert Hall 152
Troy Carriage Sunshade Co., Troy, O.....Basement 228

TIRE PROTECTORS, TIRE TOOLS, ETC.

Allen Auto Specialty Co., 1931 Broadway New York .....3d Tier Boxes 278
Brown Mfg. Co., Butler, Ind.....Basement 246
Gilbert Mfg. Co., New Haven, Conn.....Balcony 125
Newmastic Tire Co., 68th street and Broadway, N. Y..Basement 274
Shaler Co., C. A., Waupun, Wis.....2d Tier Boxes 206
Traver Blowout Patch Co., 1265 Broadway, New York .....2d Tier Boxes 197

WHEELS, RIMS, AND BRAKES.

Indestructible Steel Wheel Co., 1303 Michigan avenue, Chicago, Ill.....Concert Hall 155
Jones, Phineas, & Co., Newark, N. J.....Mezzanine Plat. 94
Midgley Mfg. Co., Columbus, O.....Mezzanine Plat. 112
Schwartz Wheel Co., Philadelphia, Pa.....Mezzanine Plat. 71
Standard Brake Co., 101 West 66th street, New York..Basement 260

CARBURETERS.

Breeze Carburetor Co., Newark, N. J.....Balcony 187
Byrne, Kingston & Co., Kokomo, Ind.....Mazzanine Plat. 66
McCord & Co., Chicago, Ill.....Balcony 144
Turner Brass Works, Chicago, Ill.....3d Tier Boxes 279
Wheeler & Schebler, Indianapolis, Ind.....Balcony 121

RADIATORS.

A. Z. Co., 527 West 56th street, New York.....2d Tier Boxes 194
Briscoe Mfg. Co., Detroit, Mich.....Basement 267
Livingston Radiator Co., 8 W. 30th street, New York..Basement 253
McCord & Co., Chicago, Ill.....Balcony 144
Whitlock Coil Pipe Co., Hartford, Conn.....Mezzanine Plat. 110

LUBRICATING APPLIANCES.

Hancock Mfg. Co., Charlotte, Mich.....Concert Hall 175
McCord & Co., Chicago, Ill.....Balcony 144
Precision Appliance Co., Chicago, Ill.....Mezzanine Plat. 85
Randall-Faichney Co., Boston, Mass.....Balcony 180

FUEL SUPPLY TANKS.

Bowser, S. F., & Co., Inc., Fort Wayne, Ind.....Concert Hall 156
Janney & Steinmetz, Philadelphia, Pa.....Mezzanine Plat. 87
National Oil Pump & Tank Co., Dayton, O.....Basement 254

BODIES FOR THE CAR.

Manhattan Auto Top & Body Co.....Basement 217
Springfield Metal Body Co., Springfield, Mass.....Concert Hall 158

COMPRESSED ACETYLENE GAS TANKS.

Avery Portable Lighting Co., Milwaukee, Wis.....Concert Hall 172
Prest-O-Lite Co., Indianapolis, Ind.....Concert Hall 161

PAINTS AND VARNISHES.

Masury & Son, John W., Brooklyn, N. Y.....2d Tier Boxes 188
Sherwin-Williams Co., Pittsburg, Pa.....Concert Hall 163
Valentine & Co., 257 Broadway, New York.....Balcony 117

ANTI-FRICTION BEARINGS.

American Ball-Bearing Co., Cleveland, O.....Mezzanine Plat. 106
Bertz, J. S., Co., Times Building, New York....
Hess-Bright Mfg. Co., Philadelphia, Pa.....Mezzanine Plat. 73
Hyatt Roller-Bearing Co., Newark, N. J.....Mezzanine Plat. 109
New Departure Mfg. Co., Bristol, Conn.....Basement 226
Standard Roller-Bearing Co., Philadelphia, Pa.....Balcony 150

PROVIDERS OF THE RAW MATERIALS.

Bethlehem Steel Co., Bethlehem, Pa.....Balcony 127
Carpenter Steel Co., Reading, Pa.....Balcony 132
Prosser, Thomas, & Sons, 30 Gold street, New York....Balcony 192
Shelby Steel Tube Co., Pittsburg, Pa.....Mezzanine Plat. 59

WITH THE UNIVERSAL PROVIDERS.

Auto Accessories Mfg. Co., Detroit, Mich.....Concert Hall 153
Auto Supply Mfg. Co., Brooklyn, N. Y.....Basement 225
Miller, Charles E., 97 Reade street, New York....2d Tier Boxes 193
New York Sporting Goods Co., 17 Warren street, New York .....Basement 208
Pierson Motor Supply Co., Brooklyn, N. Y.....Basement 222
Post & Lester Co., Hartford, Conn.....Basement 272

CHAINS AND TRANSMISSION APPLIANCES.

Baldwin Chain & Mfg. Co., Worcester, Mass....Mezzanine Plat. 68
Brown-Lipe Gear Co., Syracuse, N. Y.....Mezzanine Plat. 102
Diamond Chain & Mfg. Co., Indianapolis, Ind.....Concert Hall 169
Spicer Universal Joint Mfg. Co., Plainfield, N. J.....Balcony 140
Timken Roller-Bearing Axle Co., Canton, O.....Mezzanine Plat. 98
Warner Gear Co., Muncie, Ind.....Mezzanine Plat. 99

HAND TOOLS.

Auto Pump Co., Springville, N. Y.....Mezzanine Plat. 82
Coe's Wrench Co., Worcester, Mass.....Concert Hall 178
Cook's Standard Tool Co., Kalamazoo, Mich....Mazzanine Plat. 81
Duff Mfg. Co., Pittsburg, Pa.....Mezzanine Plat. 84
Patterson, Gottfried & Hunter, Ltd., 146 Center street, New York .....Basement 264
Watres Mfg. Co., 1133 Broadway, New York.....2d Tier Boxes 204
Wray Pump & Register Co., Rochester, N. Y.....Concert Hall 167

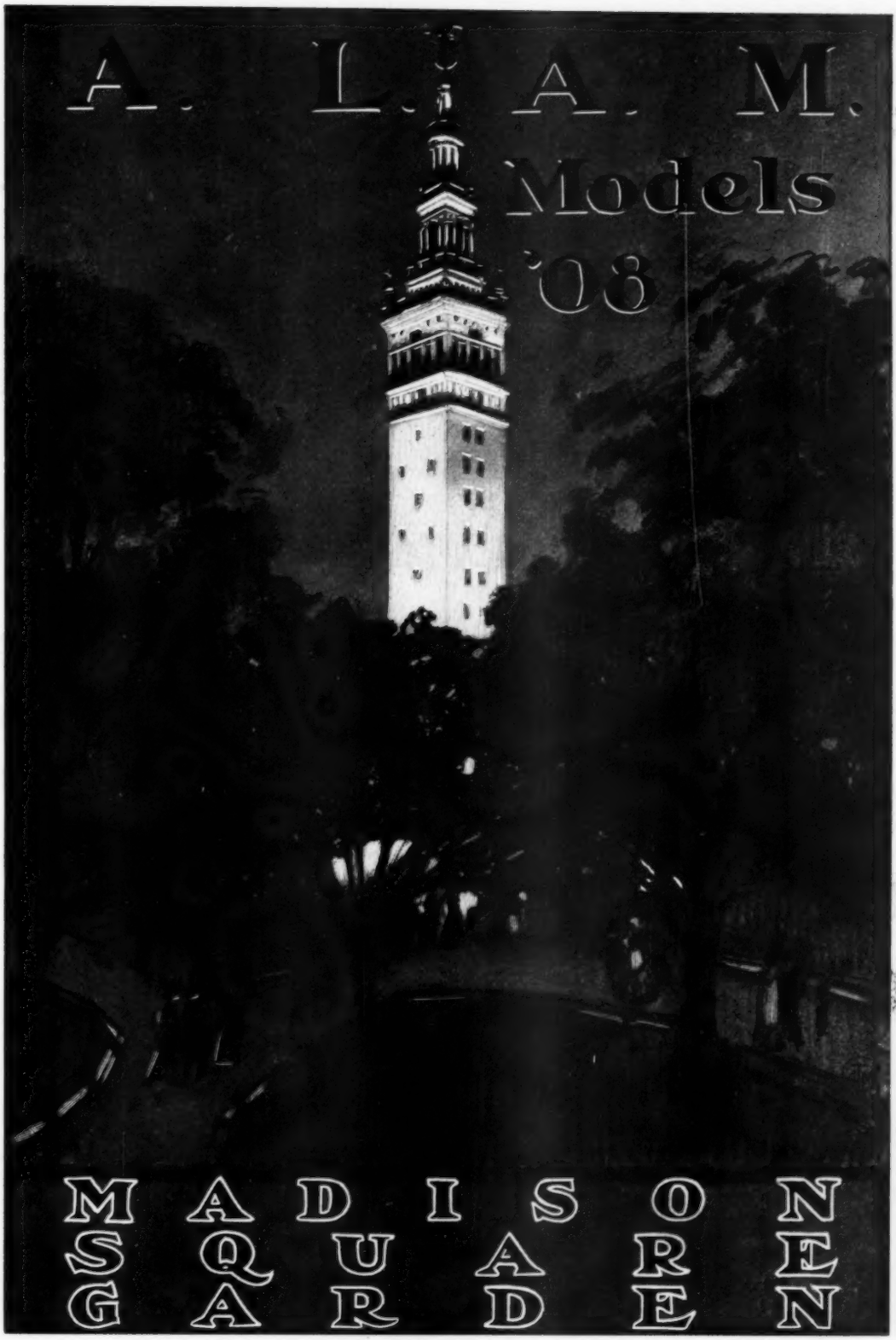
ALUMINUM, BRONZE, AND IRON CASTINGS.

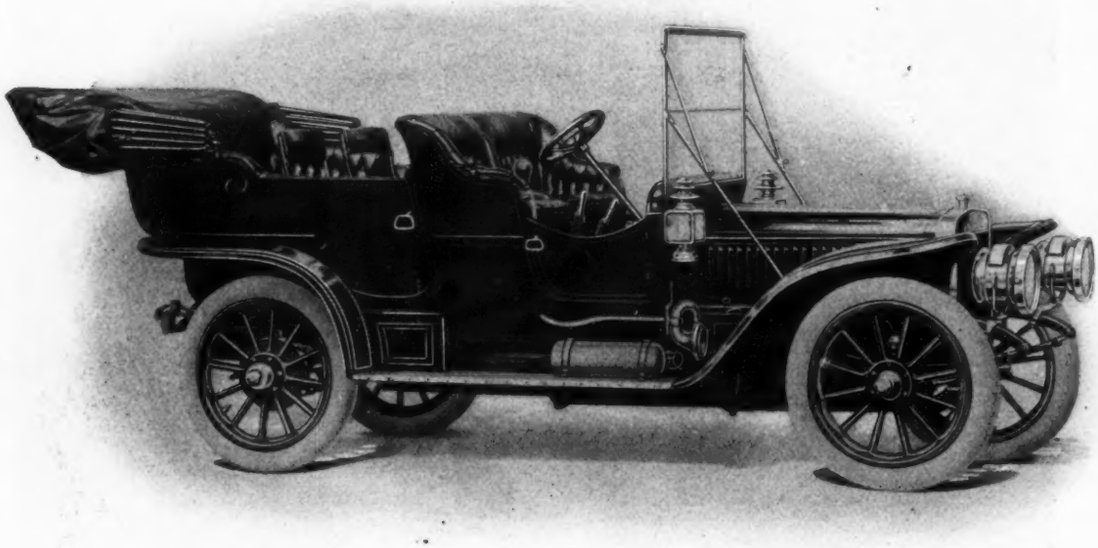
Cramp & Sons, William, Philadelphia, Pa.....Balcony 128
Johnson & Co., Isaac G., Spuyten Duyvil, N. Y.....Balcony 181
Light Mfg. & Foundry Co., Pottstown, Pa.....Mezzanine Plat. 76
Manufacturers' Foundry Co., Waterbury, Conn..Mezzanine Plat. 101

MISCELLANEOUS.

Acetyvone Co., Niagara Falls, N. Y.....Balcony 182
Allers & Co., Harry A., 36 Liberty street, New York .....2d Tier Boxes 195
Aluminum Solder & Refining Co., Oswego, N. Y...3d Tier Boxes 238
American Aluminum Co., Pittsburg, Pa.....Basement 229
Blue Ribbon Auto & Carriage Co., Bridgeport, Conn...Basement 215
Chandler Co., Springfield, Mass.....Concert Hall 88
Clover Mfg. Co., 226 West 58th street, New York..3d Tier Boxes 293
Columbia Nut & Bolt Co., Inc., Bridgeport, Conn.Mezzanine Plat. 79
Cowles & Co., C., New Haven, Conn.....Concert Hall 164
Downing, Charles J., 54 Warren street, New York....Basement 233
Dubied & Co., Ed., 43-45 West 34th street, New York .....3d Tier Boxes 281
English & Mersick Co., New Haven, Conn.....Balcony 190
Glaenzer & Co., 26 Washington place, New York.....Basement 231
Kalb & Berger Mfg. Co., 1565 Broadway, New York....Basement 234
Mann, Leon, Co., 699 Broadway, New York.....Basement 236
Mutty Co., L. J., Boston, Mass.....Basement 232
Noera Mfg. Co., Waterbury, Conn.....Balcony 151
Norton Co., 26 Cortlandt street, New York.....Basement 273
Norris Auto Co., Saginaw, Mich.....3d Tier Boxes 288
Pantasote Co., 11 Broadway, New York.....Concert Hall 160
Reilly & Son, P., Newark, N. J.....Basement 219
Tavernier & Quezin.....3d Tier Boxes 282
Ventilated Cushion & Spring Co., Jackson, Mich.....Basement 230
Young, O. W., Newark, N. J.....Balcony 122

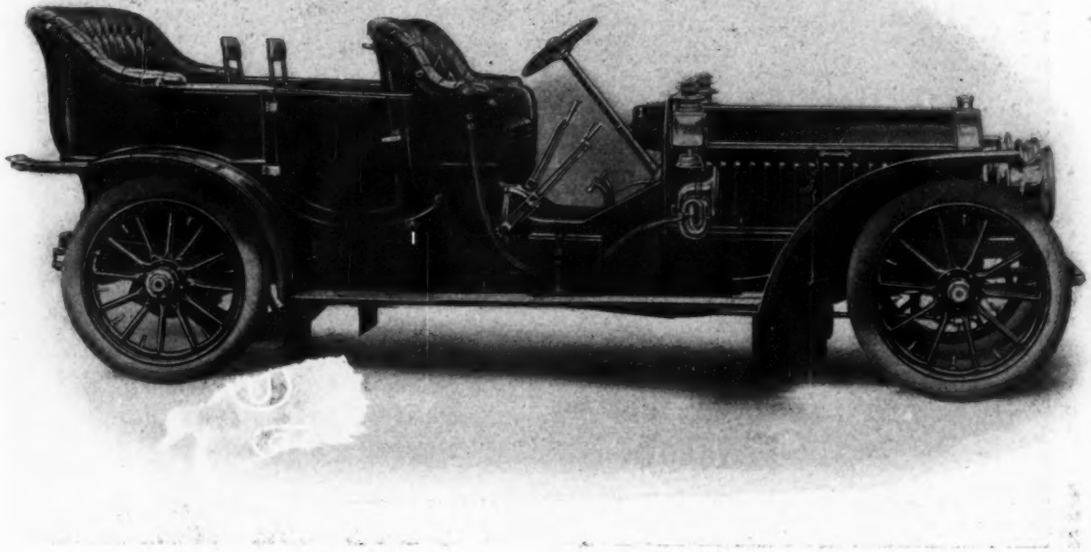
(*Continued on page 656.*)


A. L. A. M.
Models
'08
MADISON
SQUARE
GARDEN

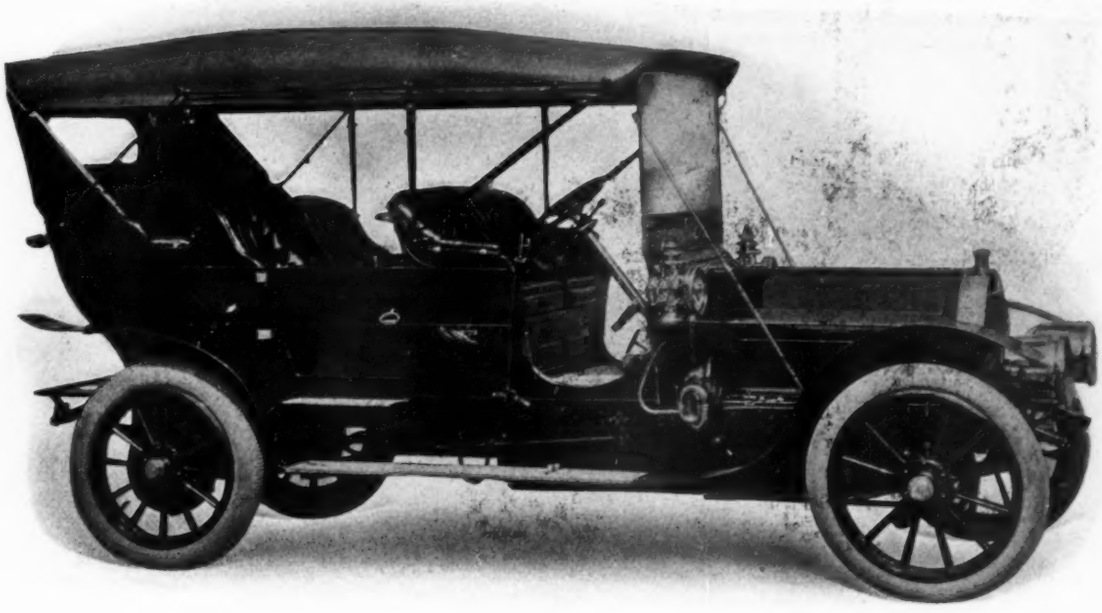


WINTON SIX-TEEN-SIX TOURING CAR, 6 CYLINDERS, 48-H.P., PRICE $4,500.
Winton Motor Carriage Co., Cleveland, O.

A·L·A·M 1908



PEERLESS TOURING CAR, 6 CYLINDERS, 60-H.P., PRICE $6,000.
Peerless Motor Car Co., Cleveland, O.



PIERCE GREAT ARROW TOURING CAR, 6 CYLINDERS, 40-H.P., PRICE $5,500.
The George N. Pierce Co., Buffalo, N. Y.

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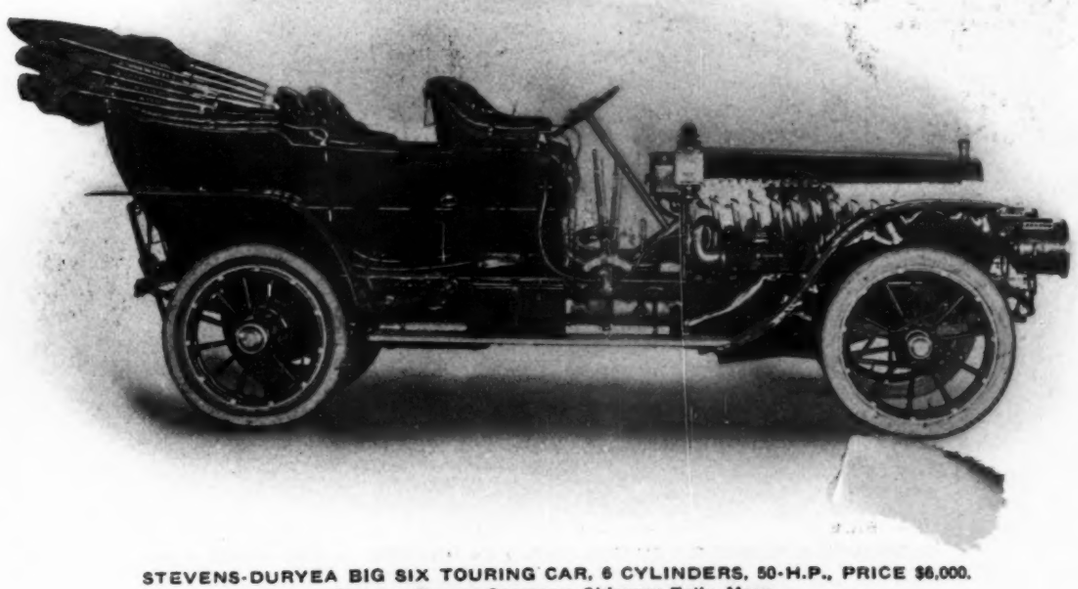
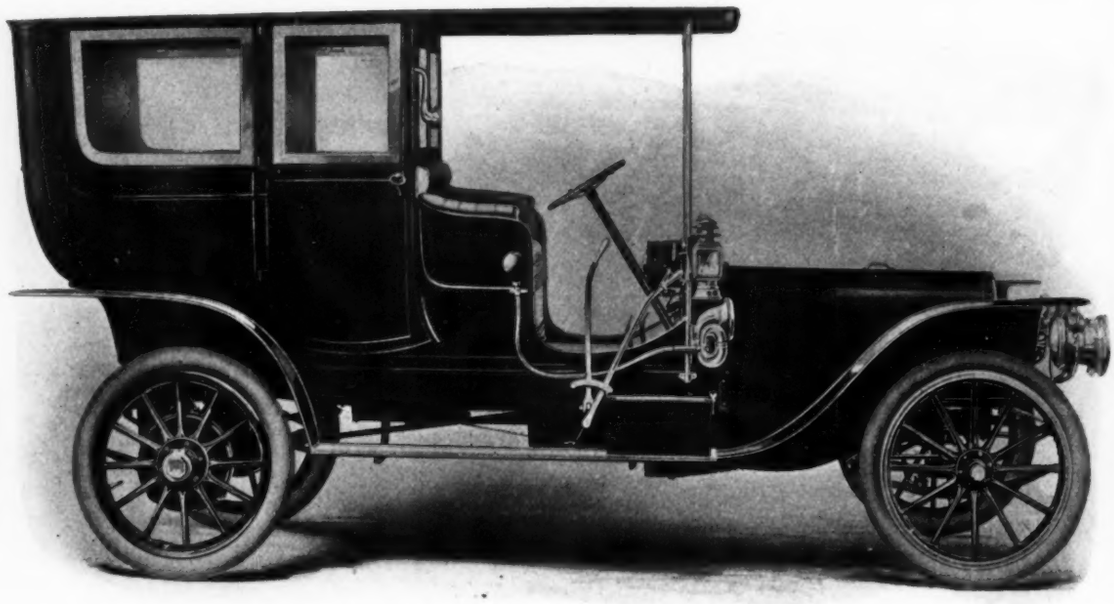


STEVENS-DURYEA BIG SIX TOURING CAR, 6 CYLINDERS, 50-H.P., PRICE $6,000.
Stevens-Duryea Company, Chicopee Falls, Mass.



FRANKLIN LIMOUSINE, MODEL H, 6 CYLINDERS, 42-H.P., PRICE $5,200.
H. H. Franklin Mfg. Co., Syracuse, N. Y.

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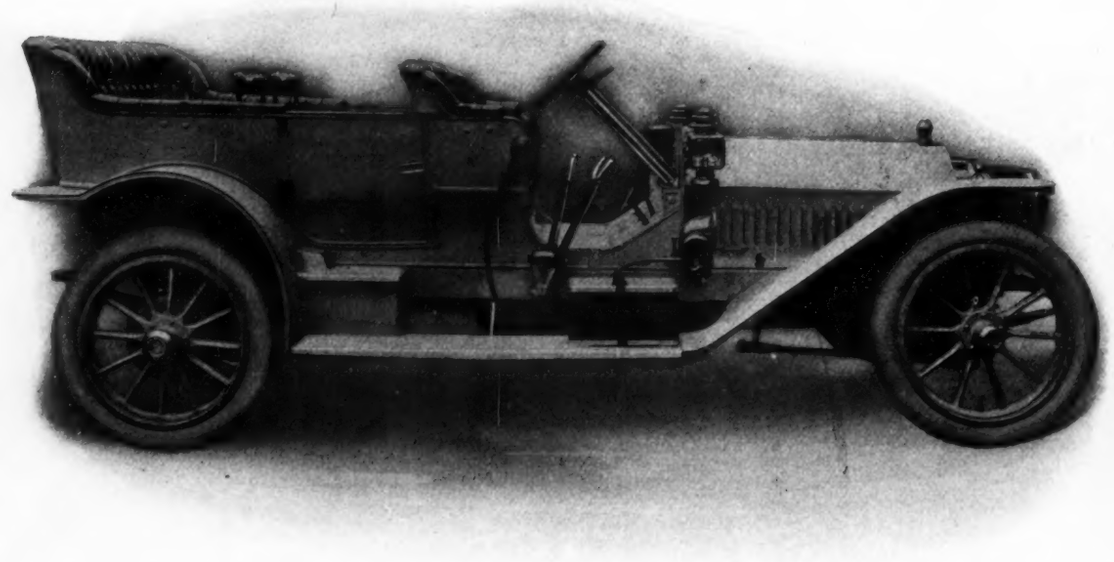
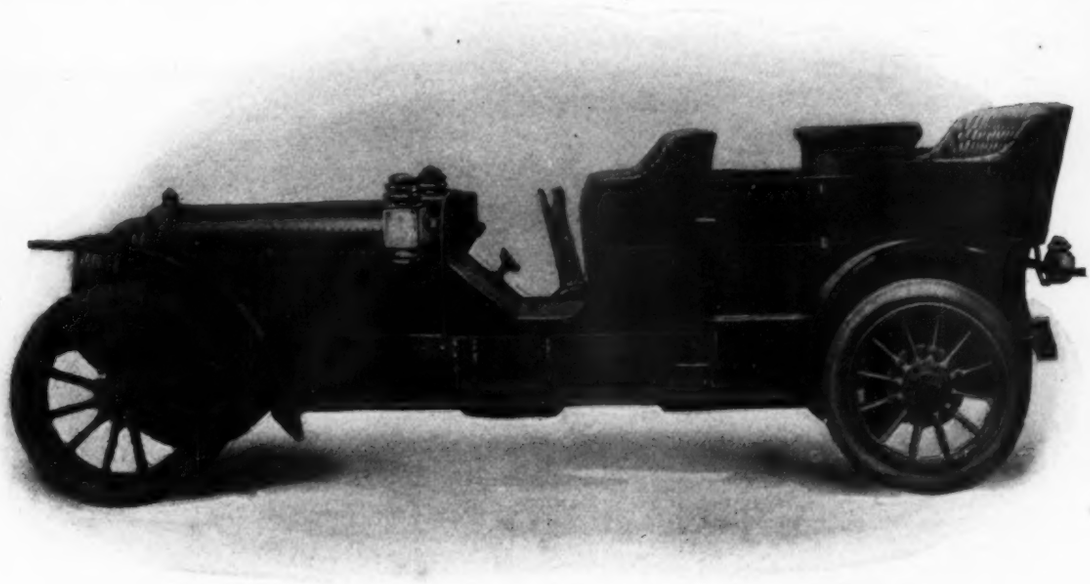


OLDSMOBILE MODEL Z TOURING CAR, 6 CYLINDERS, 48-H.P., PRICE $4,200.
Olds Motor Works, Lansing, Mich.



LOZIER MODEL I TOURING CAR, 6 CYLINDERS, 50-H.P., PRICE $6,000.
Lozier Motor Company, New York City.

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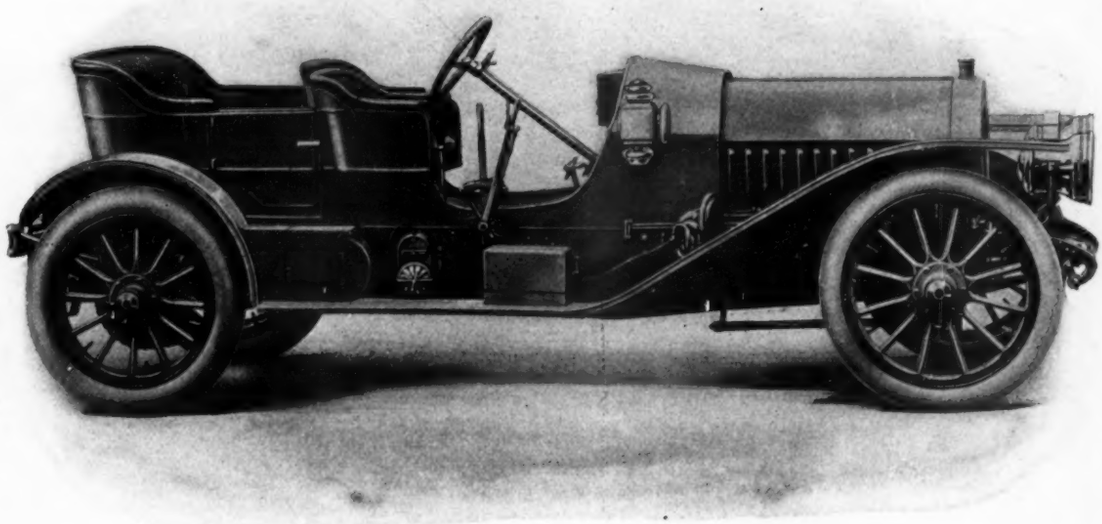
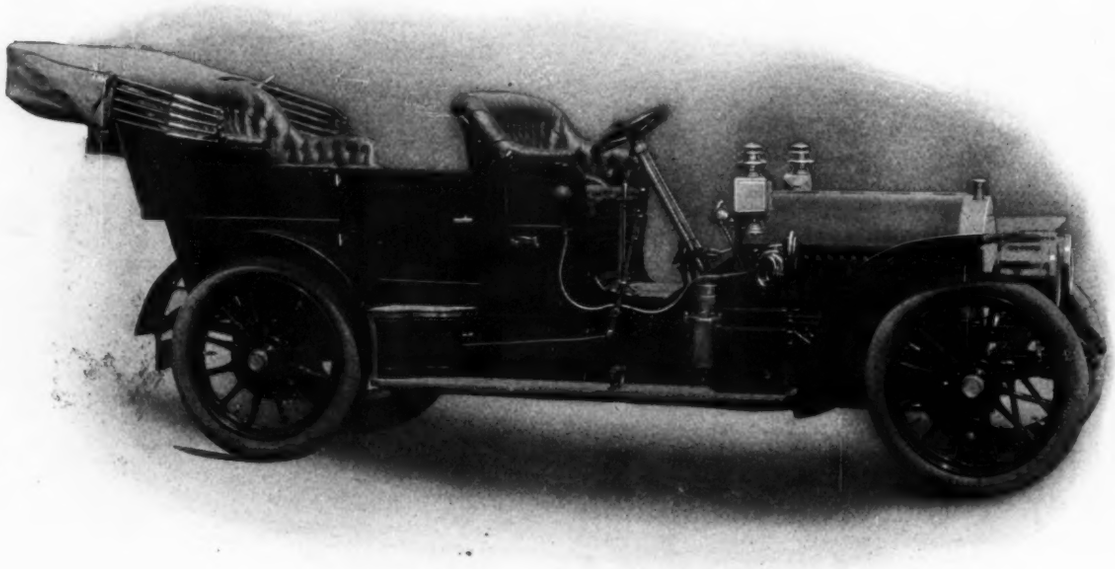


STEARNS LIGHT TOURING CAR, 6 CYLINDERS, 45-H.P., PRICE $6,250.
F. B. Stearns Co., Cleveland, O.



LOCOMOBILE TOURING CAR, TYPE I, 4 CYLINDERS, 20-H.P., PRICE $4,750.
Locomobile Company of America, Bridgeport, Conn.

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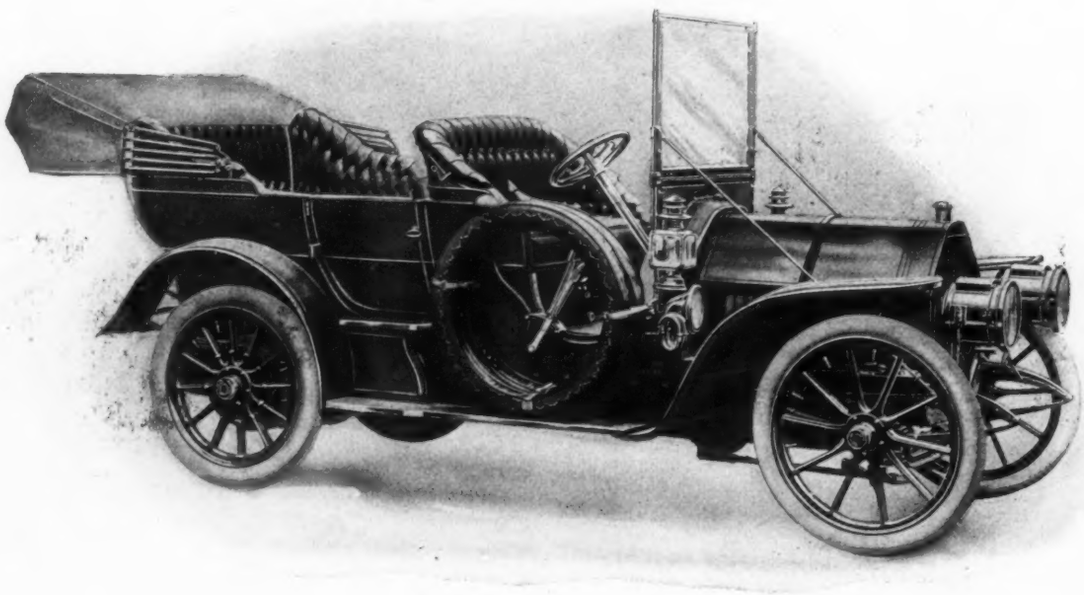
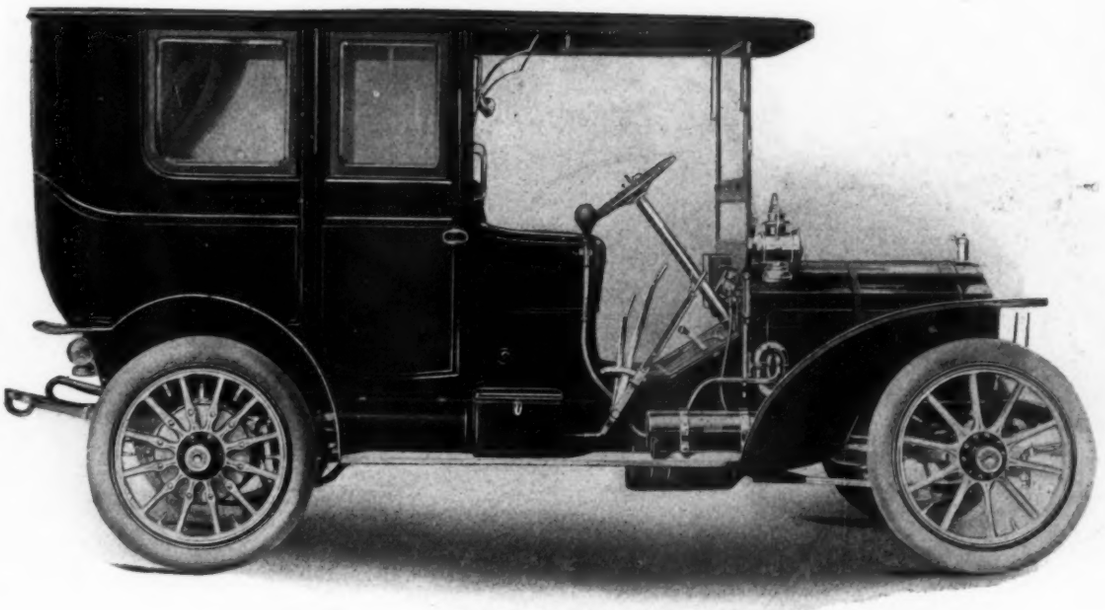
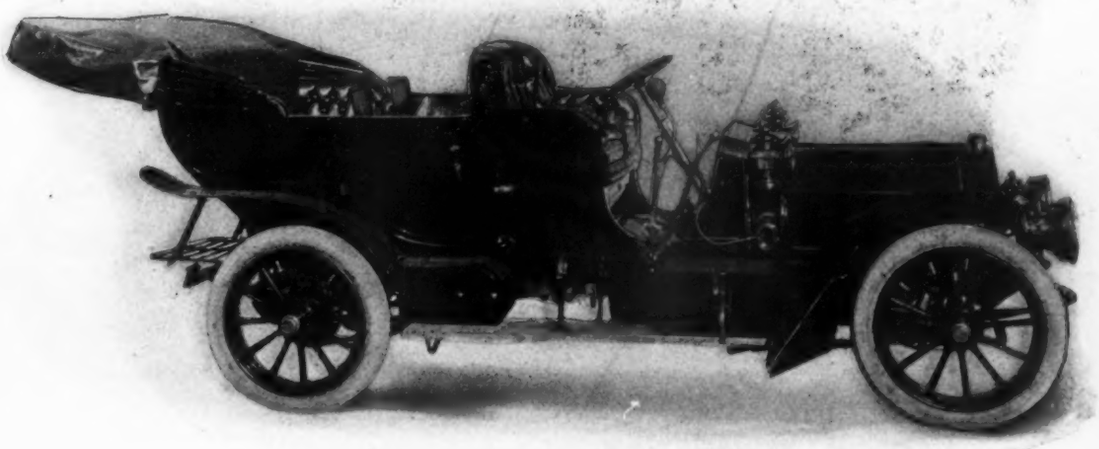


POPE-TOLEDO TOURING CAR, MODEL XVII, 4 CYLINDERS, PRICE $4,750.
Pope Motor Car Co., Toledo, Ohio.

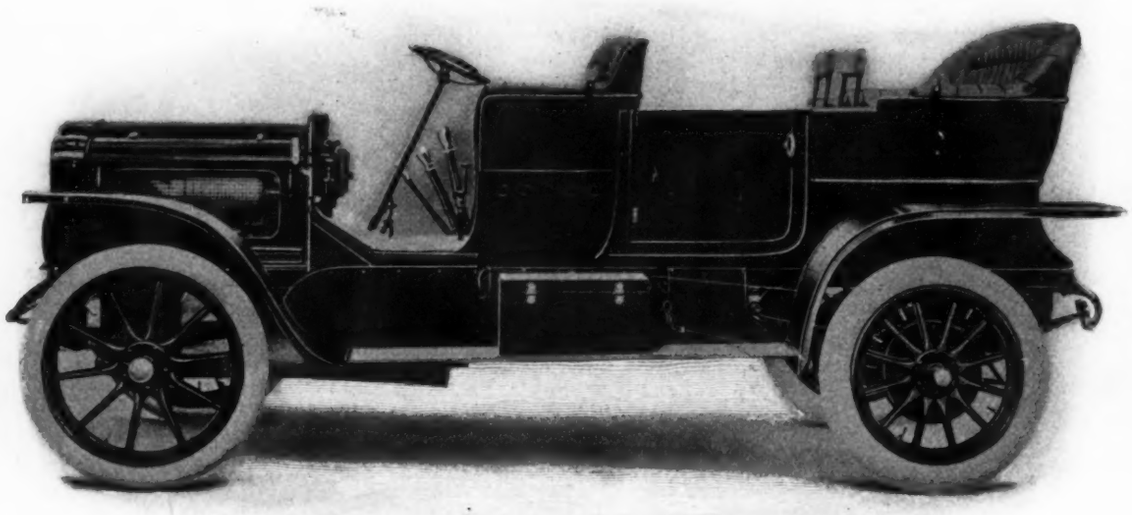


PACKARD LIMOUSINE, 4 CYLINDERS, 30-H.P., PRICE $5,600.
Packard Motor Car Co., Detroit, Mich.

A·L·A·M 1908



APPERSON TOURING CAR, MODEL K, 4 CYLINDERS, 50-H.P., PRICE $4,200.
Apperson Bros. Automobile Co., Kokomo, Ind.



WHITE STEAMER TOURING CAR, MODEL K, 30-H.P., PRICE $3,700.
The White Company, Cleveland, O.

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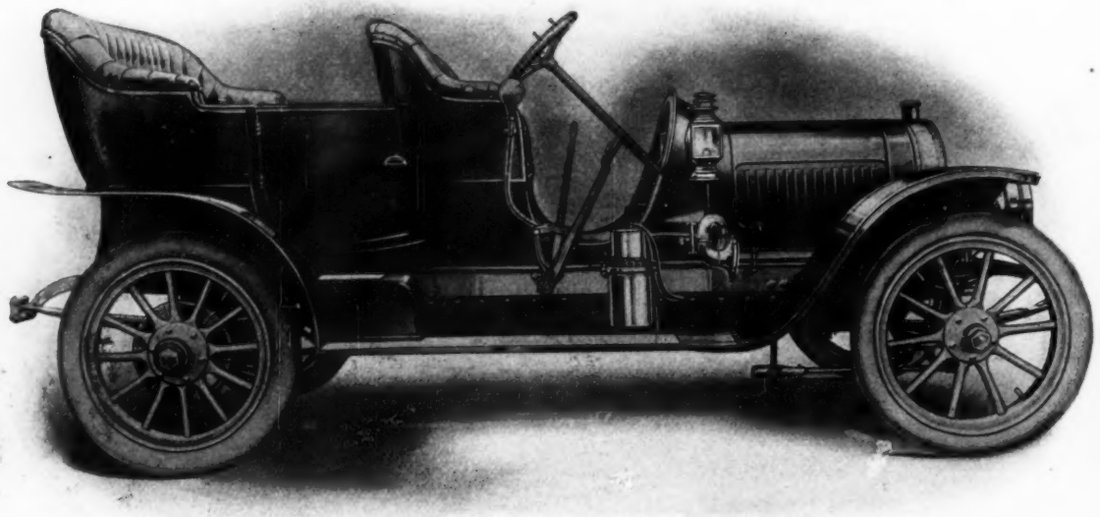
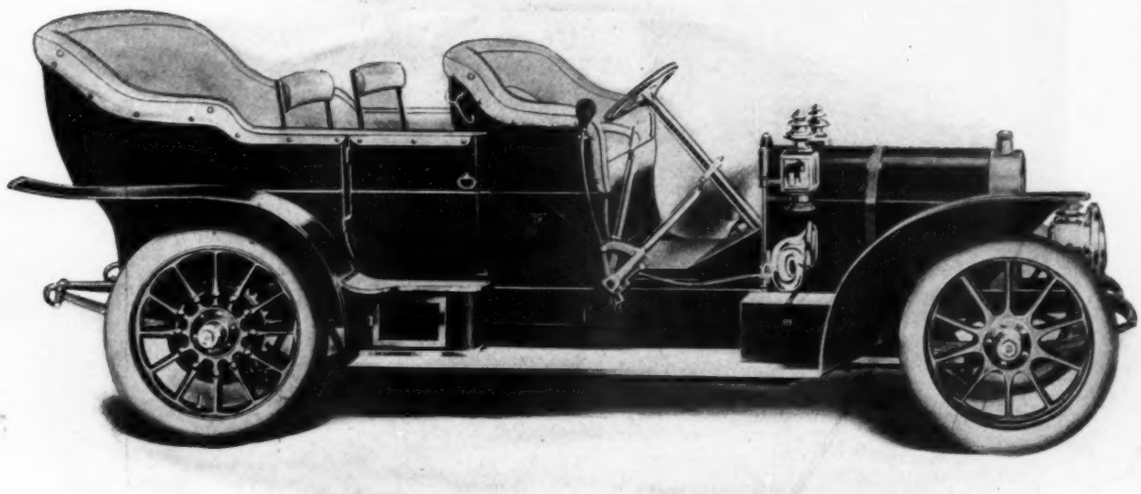
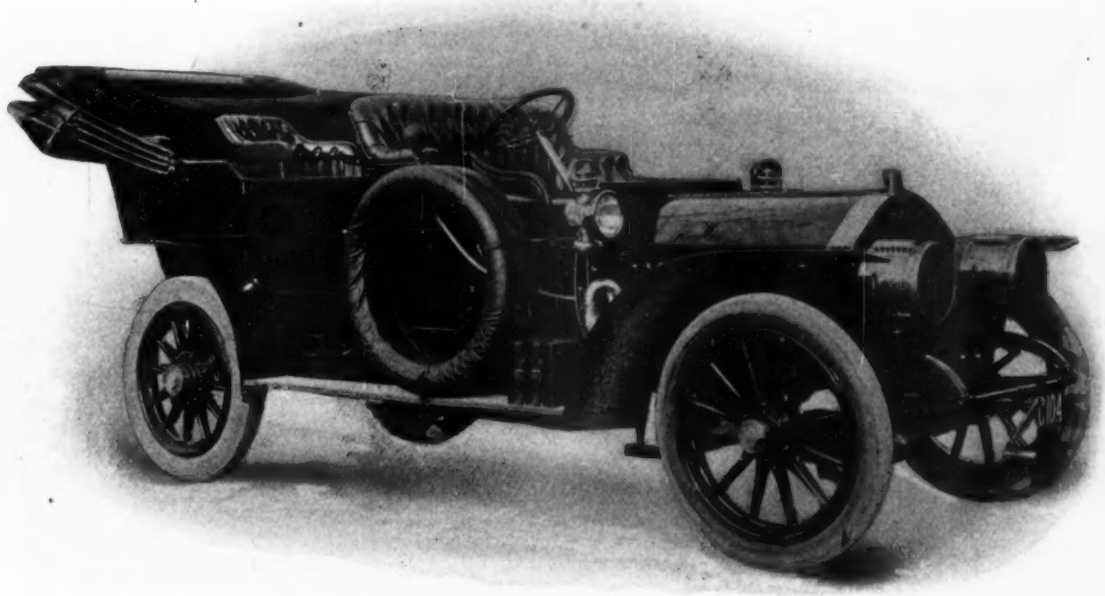


POPE-HARTFORD TOURING CAR, MODEL M, 4 CYLINDERS, 30-H.P., PRICE $2,750.
Pope Manufacturing Co., Hartford, Conn.

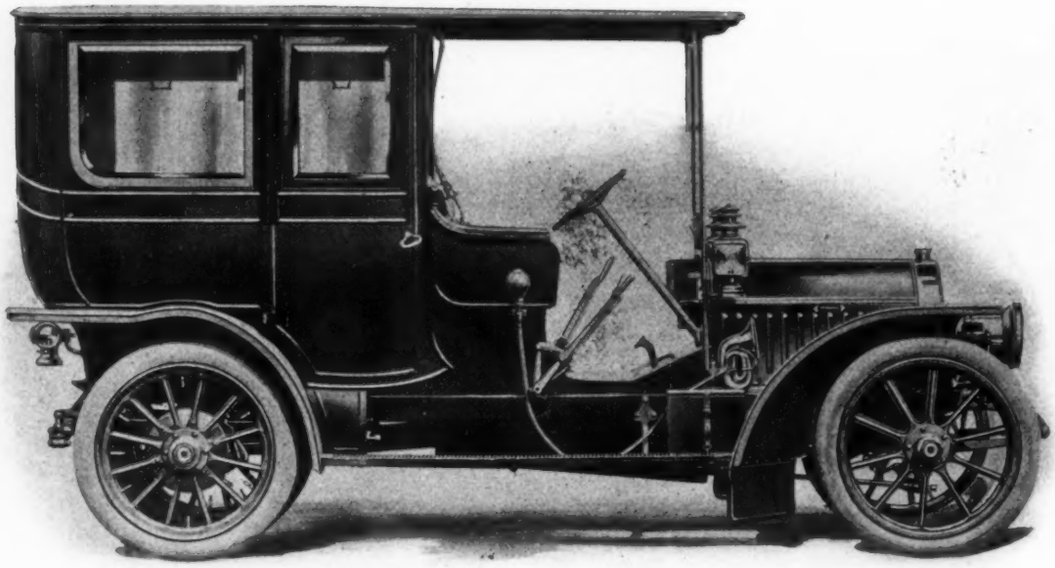


THOMAS FLYER TOURING CAR, 4 CYLINDERS, 60-H.P., PRICE $4,500.
E. R. Thomas Motor Co., Buffalo, N. Y.

A·L·A·M 1908

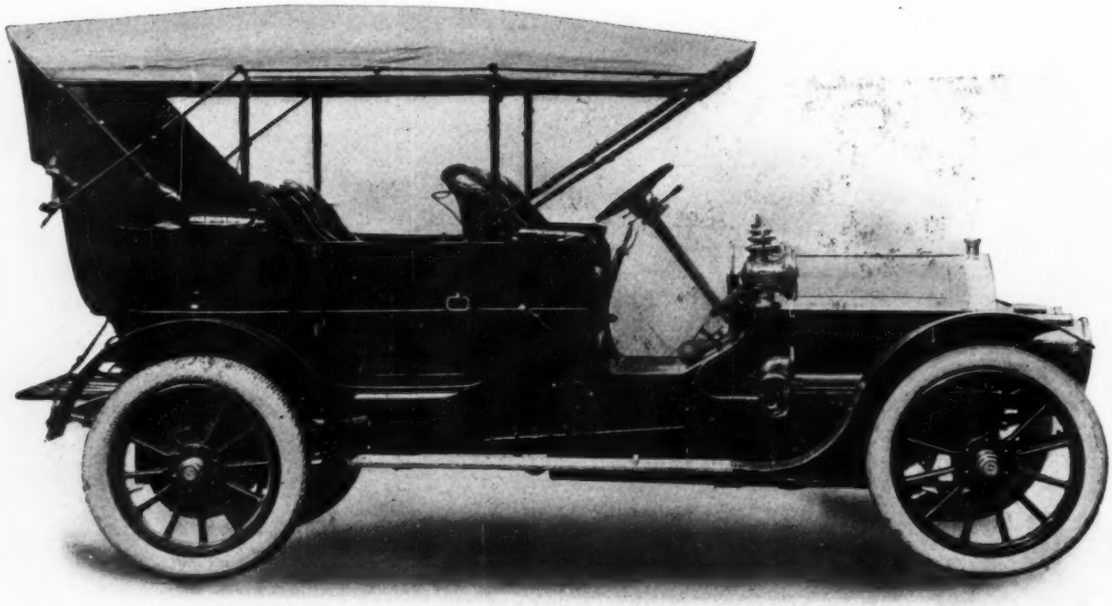


COLUMBIA GASOLINE-ELECTRIC TOURING CAR, 4 CYLINDERS, 48-H.P.,
PRICE $6,500.
Electric Vehicle Co., Hartford, Conn.

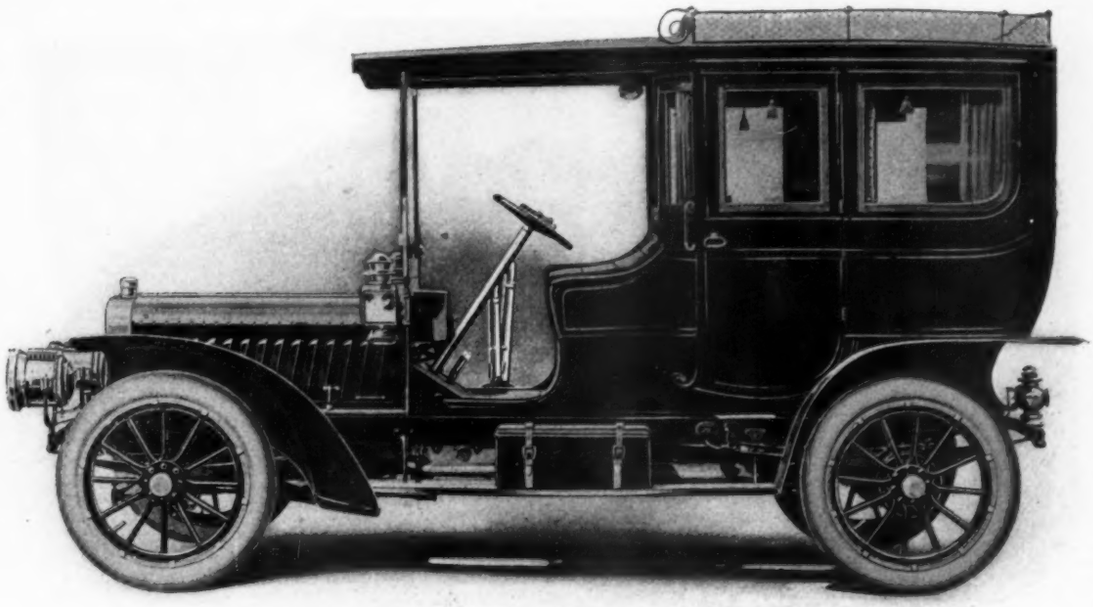


PEERLESS LIMOUSINE, MODEL XVIII, 4 CYLINDERS, 30-H.P., PRICE $5,500.
Peerless Motor Car Co., Cleveland, Ohio.

A·L·A·M 1908

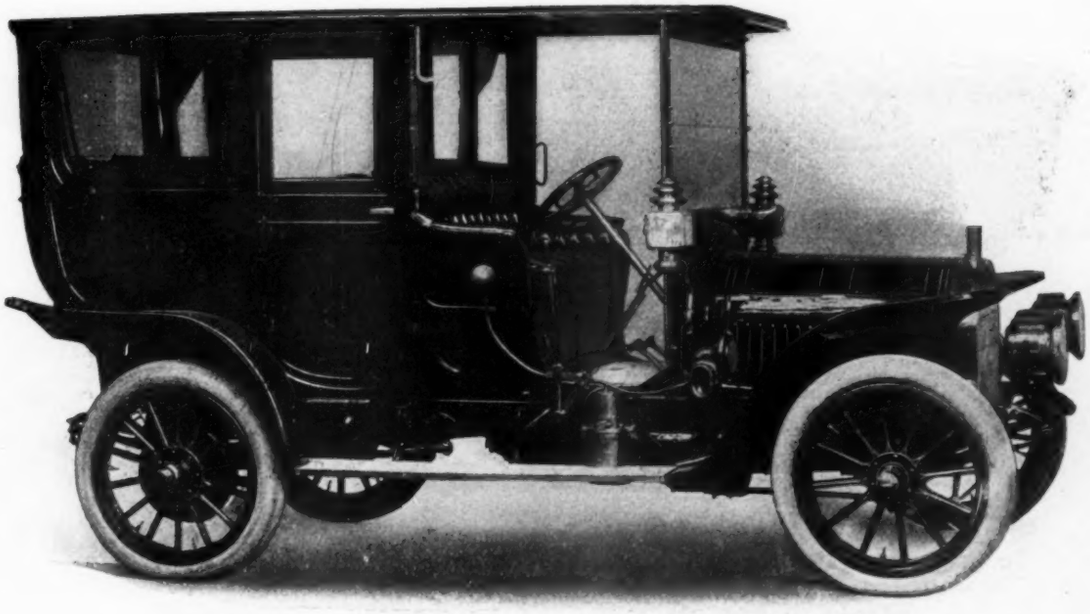


PIERCE GREAT ARROW TOURING CAR, 4 CYLINDERS, 40-H.P., PRICE $5,000.
George N. Pierce Co., Buffalo, N. Y.

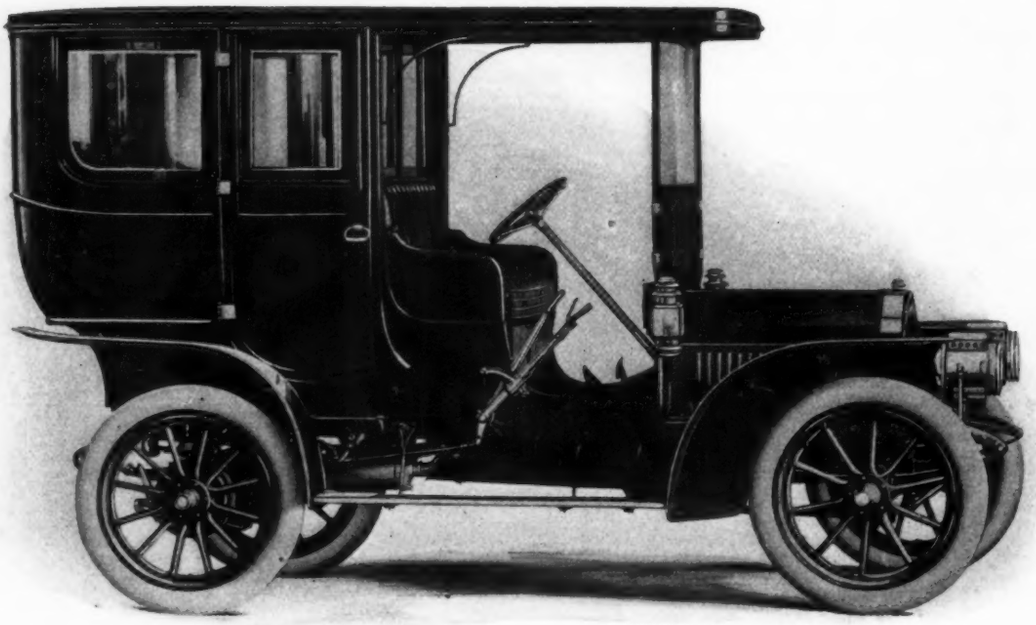


STEVENS-DURYEA "LIGHT SIX" LIMOUSINE, 6 CYLINDERS, 35-H.P., PRICE $4,500.
Stevens-Duryea Company, Chicopee Falls, Mass.

A·L·A·M 1908



ROYAL TOURIST LIMOUSINE, 4 CYLINDERS, 45-H.P., PRICE $5,000.
Royal Motor Car Co., Cleveland, Ohio.



CADILLAC LIMOUSINE, MODEL G, 4 CYLINDERS, 25-H.P., PRICE $3,000.
Cadillac Motor Car Co., Detroit, Mich.

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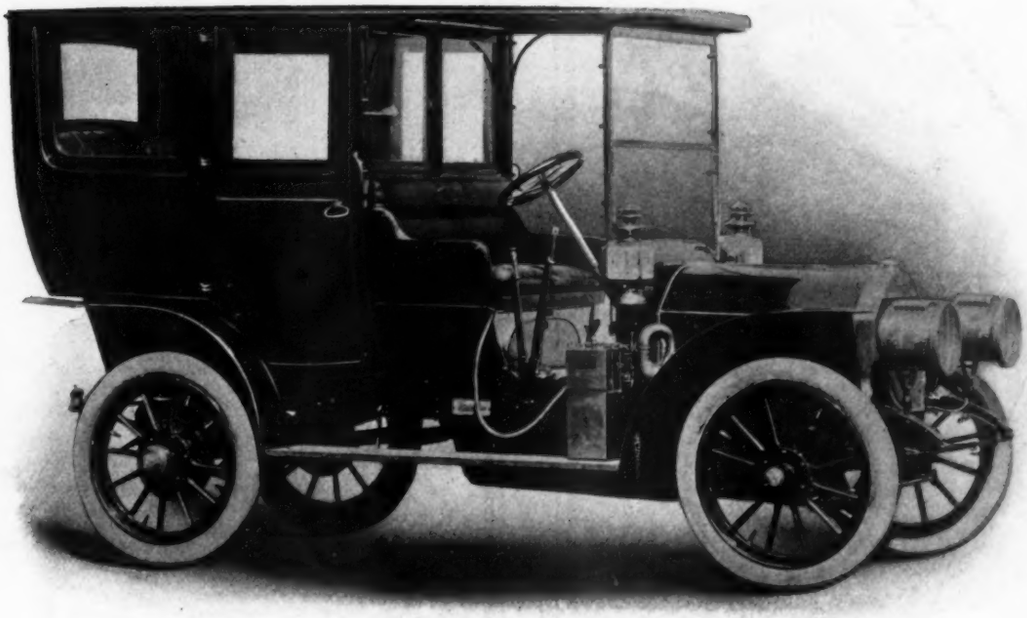
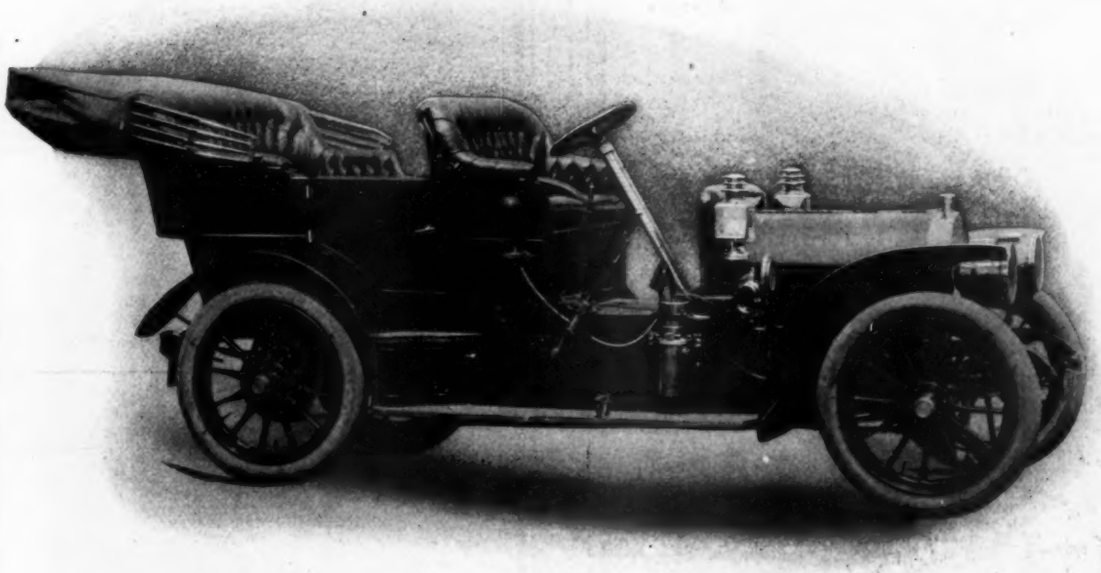
HAYNES TOURING CAR, MODEL U, 4 CYLINDERS, 60-H.P., PRICE $3,750.
Haynes Automobile Co., Kokomo, Ind.

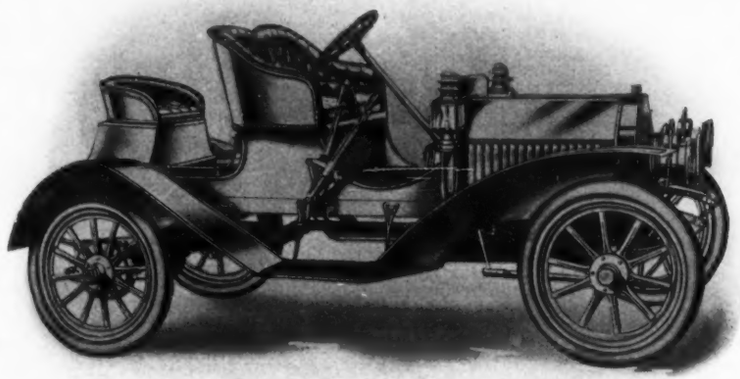


STUDEBAKER LIMOUSINE, MODEL H, 4 CYLINDERS, 27-H.P., PRICE $4,200.
Studebaker Automobile Co., South Bend, Ind.

A·L·A·M 1908



LOCOMOBILE TOURING CAR, MODEL E, 4 CYLINDERS, 20-H.P., PRICE $2,900.
Locomobile Company of America, Bridgeport, Conn.



CADILLAC RUNABOUT, 4 CYLINDERS, 25-H.P., PRICE $2,000.
Cadillac Motor Car Co., Detroit, Mich.

NORTHERN RUNABOUT, 2 CYLINDERS, 24-H.P., $1,600.
Northern Motor Car Co., Detroit, Mich.

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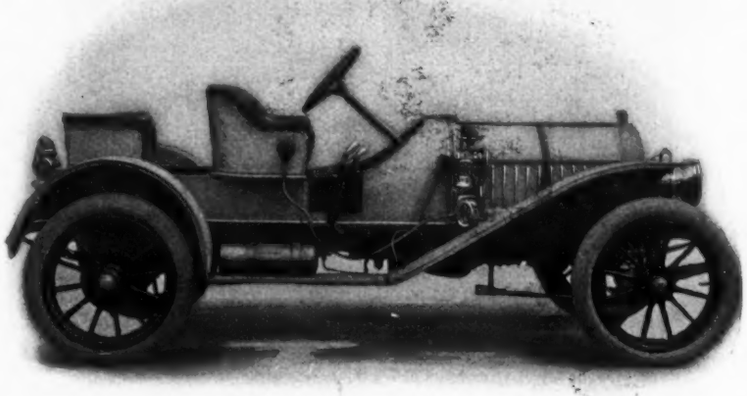
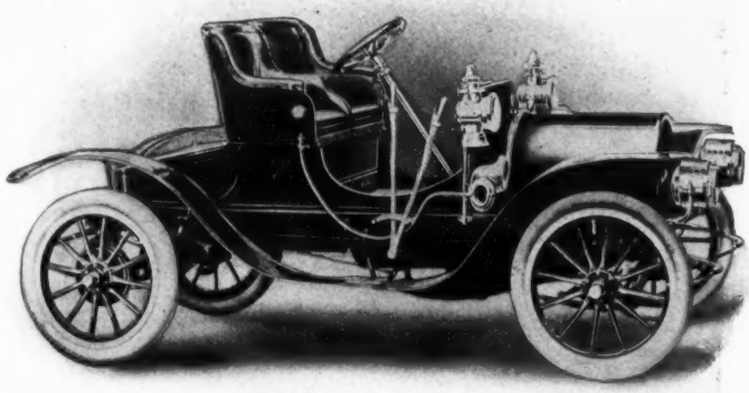
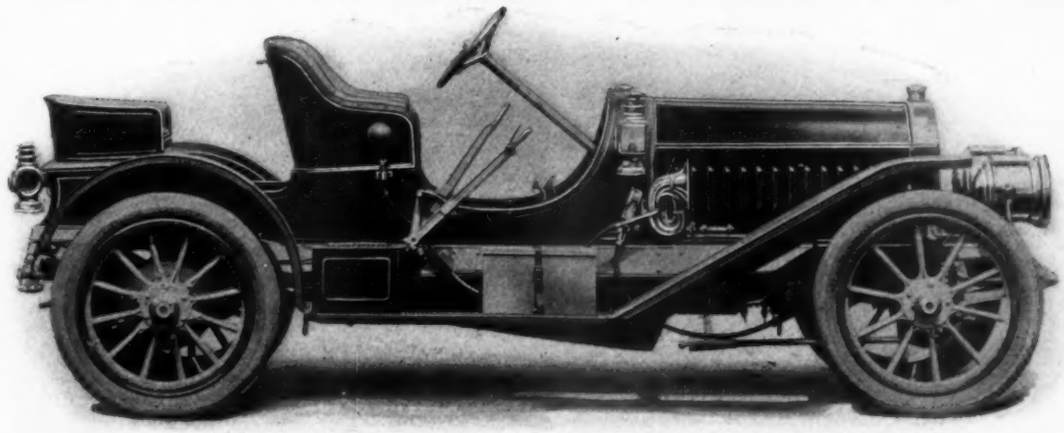


AUTOCAR ROADSTER, 4 CYLINDERS, 30-H.P., PRICE $2,750.
Autocar Company, Ardmore, Pa.



FRANKLIN RUNABOUT, 4 CYLINDERS, 16-H.P., PRICE $1,750.
H. H. Franklin Mfg. Co., Syracuse, N. Y.



PEERLESS ROADSTER, MODEL XVIII, 4 CYLINDERS, 30-H.P., PRICE $4,300.
Peerless Motor Car Co., Cleveland, Ohio.

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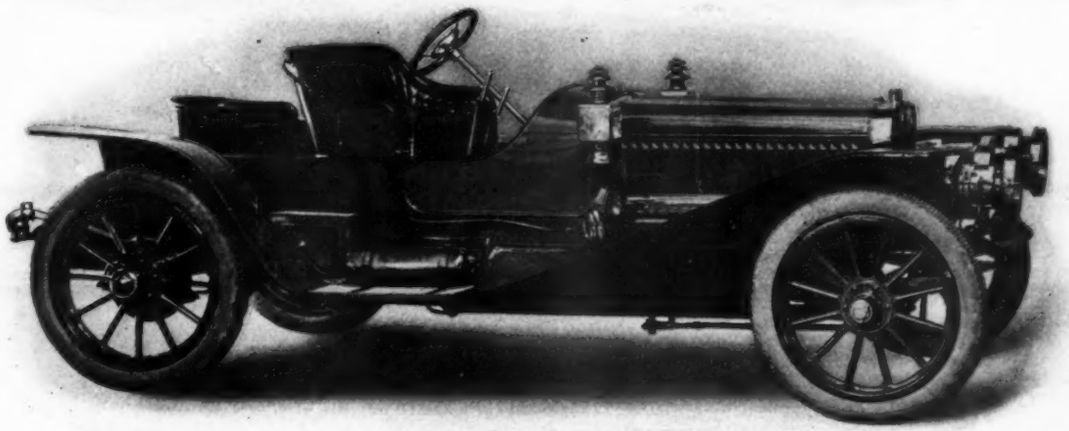
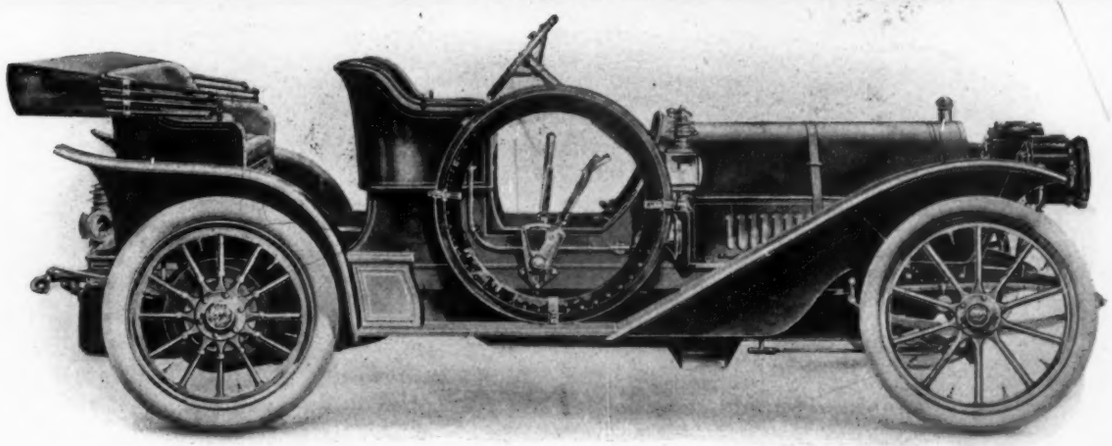
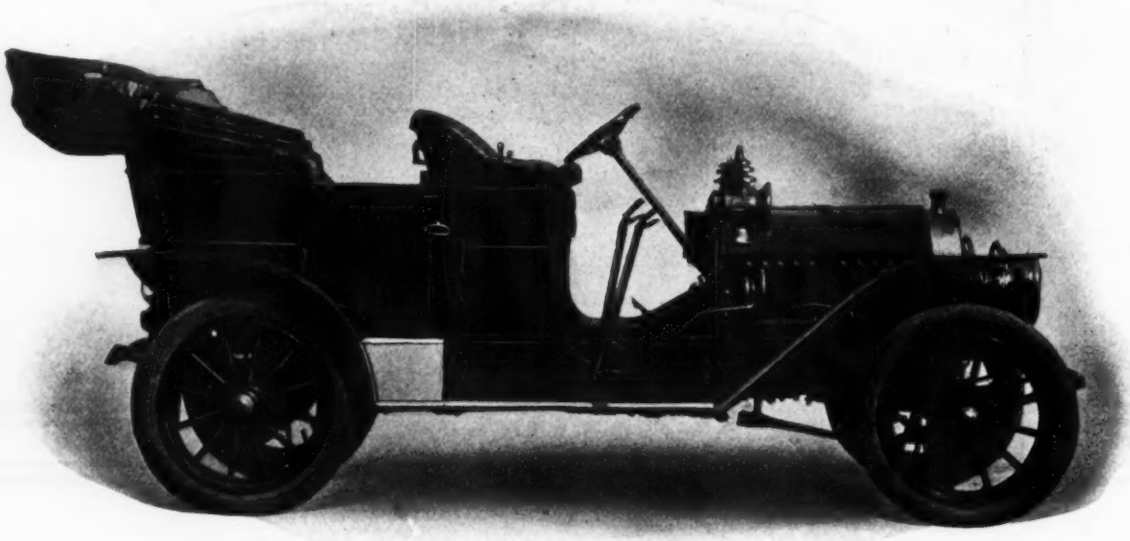


WINTON SIX-TEEN-SIX RUNABOUT, 6 CYLINDERS, 48-H.P., PRICE $4,500.
Winton Motor Carriage Co., Cleveland, Ohio.

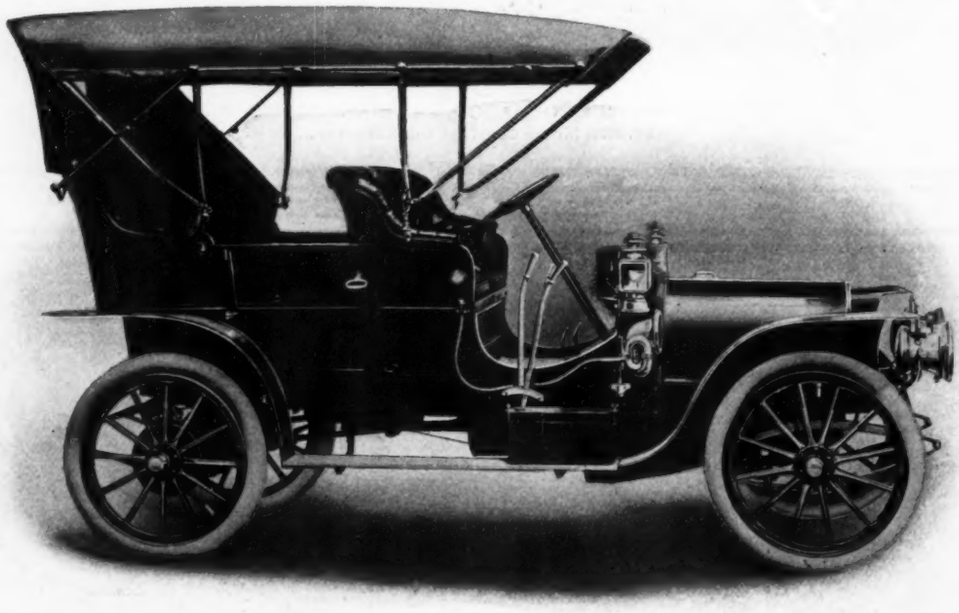


POPE-TOLEDO TOURING RUNABOUT, 4 CYLINDERS, 50-H.P., PRICE $4,750.
Pope Motor Car Co., Toledo, Ohio.



AUTOCAR TOURING CAR, MODEL XIV, 4 CYLINDERS, 30-H.P., PRICE $2,750.
The Autocar Company, Ardmore, Pa.

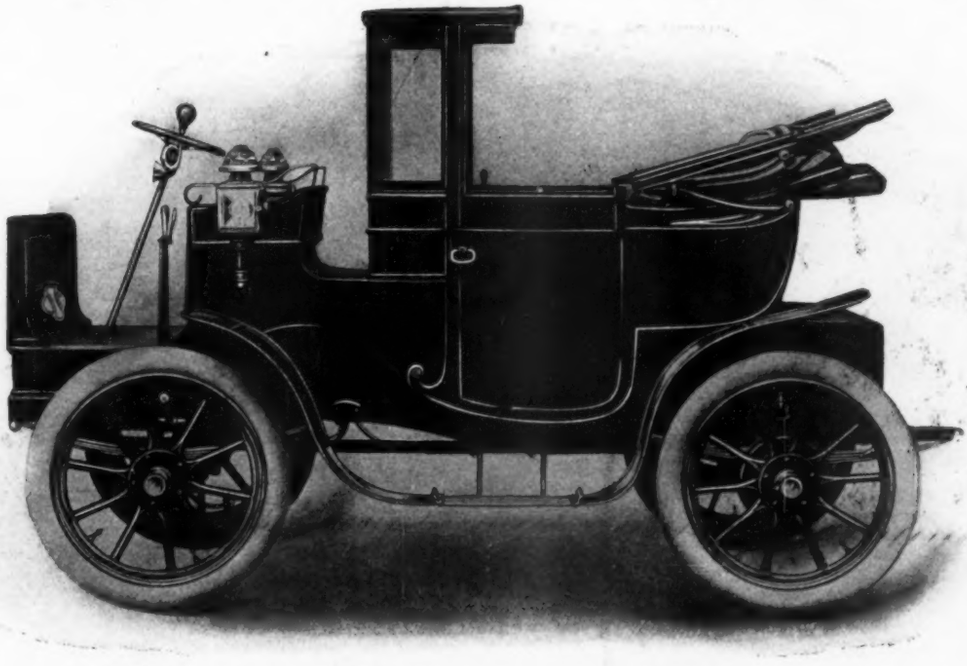
A·L·A·M 1908



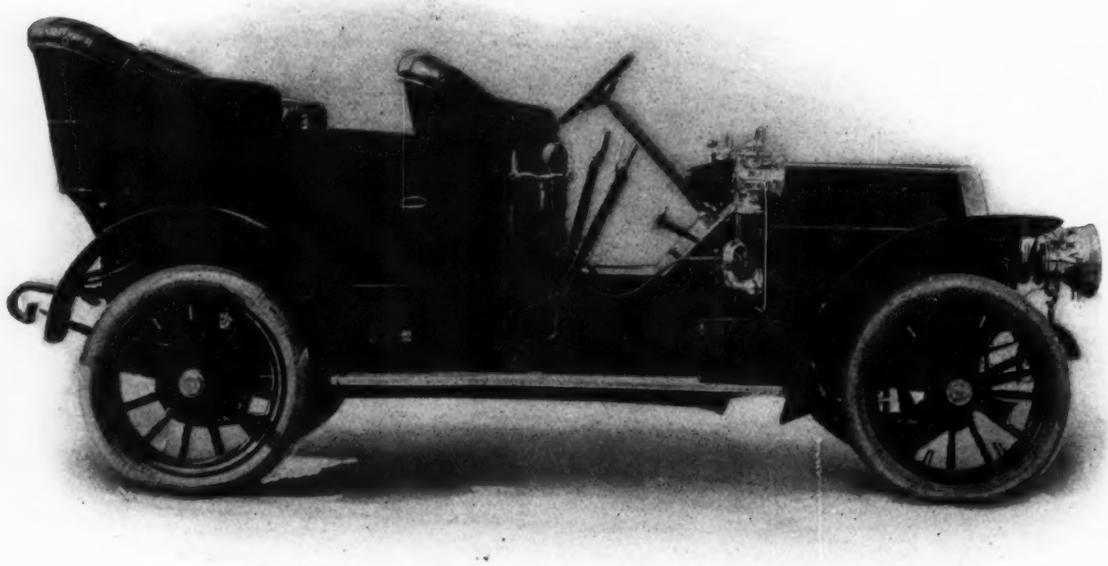
FRANKLIN TOURING CAR, MODEL D, 4 CYLINDERS, 28-H.P., PRICE $2,850.
H. H. Franklin Mfg. Co., Syracuse, N. Y.

COLUMBUS ELECTRIC SURREY, MODEL 1100, 2 1-2-H.P. ELECTRIC.
Columbus Buggy Co., Columbus, O.

A·L·A·M 1908



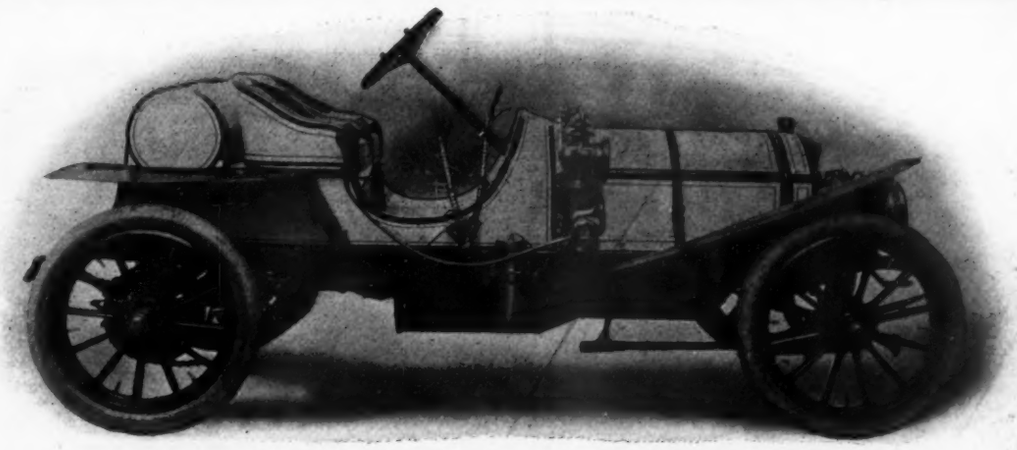
BAKER ELECTRIC LANDAULET, PRICE $4,000.
Baker Motor Vehicle Co., Cleveland, O.



KNOX AIR-COOLED TOURING CAR, MODEL G, 4 CYLINDERS, 25-H.P., PRICE $2,600.
Knox Automobile Co., Springfield, Mass.

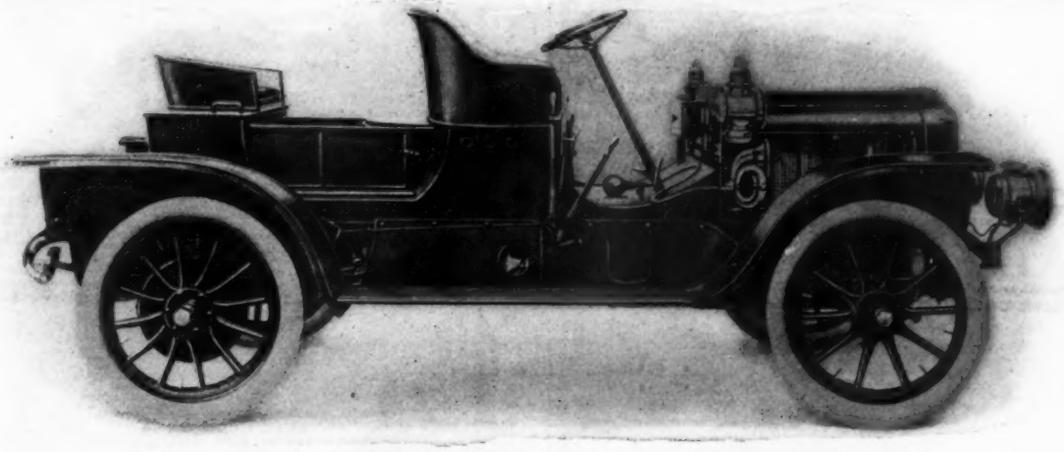
A·L·A·M 1908

LOZIER TOURING CAR, TYPE H, 4 CYLINDERS, 45-H.P., PRICE $5,000.
Lozier Motor Co., New York City.



APPERSON JACK RABBIT RUNABOUT, 4 CYLINDERS, 50-H.P., PRICE $5,000.
Apperson Bros. Automobile Co., Kokomo, Ind.

A·L·A·M



WHITE RUNABOUT, MODEL K, 30-H.P., PRICE $3,400.
The White Company, Cleveland, O.

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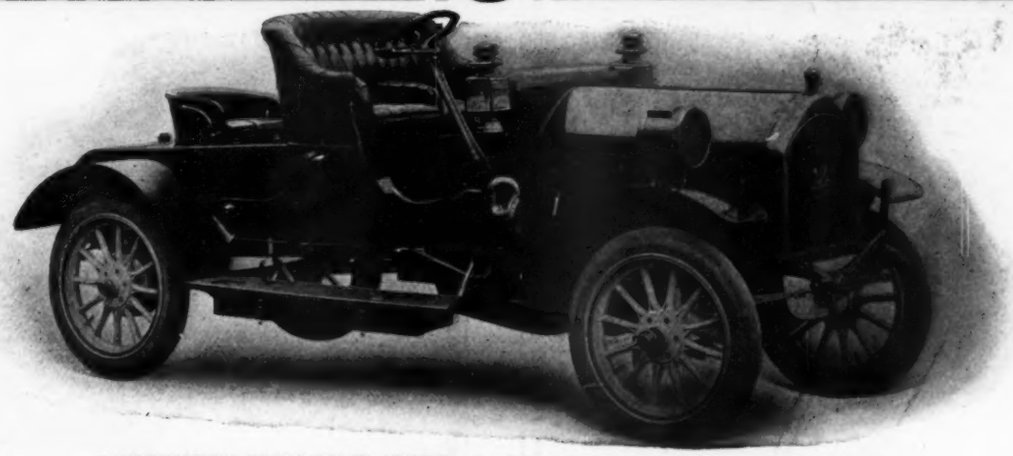
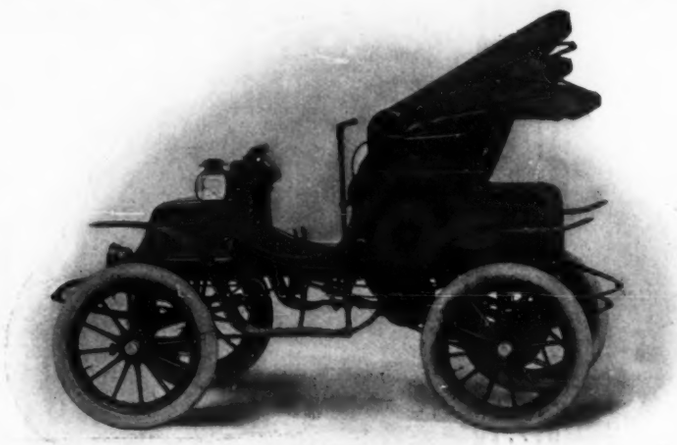


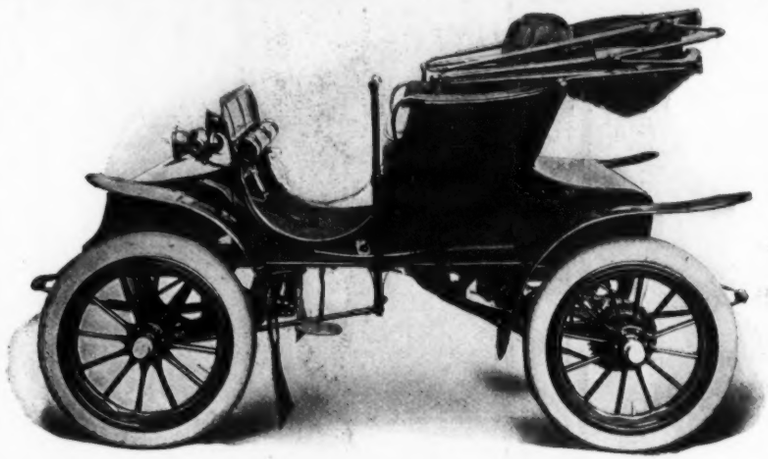
NORTHERN RUNABOUT, MODEL L, 4 CYLINDERS, 40-H.P., PRICE $3,500.
Northern Motor Car Co., Detroit, Mich.



STUDEBAKER ELECTRIC VICTORIA PHAETON, PRICE $1,750.
Studebaker Automobile Co., South Bend, Ind.

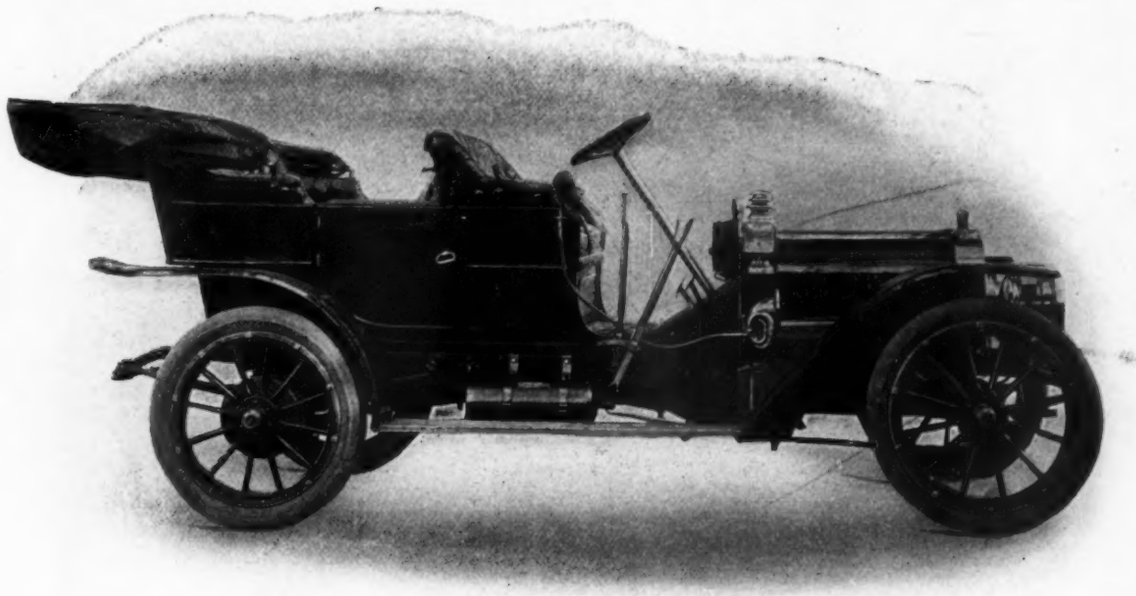
BAKER ELECTRIC QUEEN VICTORIA, PRICE $1,800
Baker Motor Vehicle Co., Cleveland, O.

19 A.L.A.M. 08



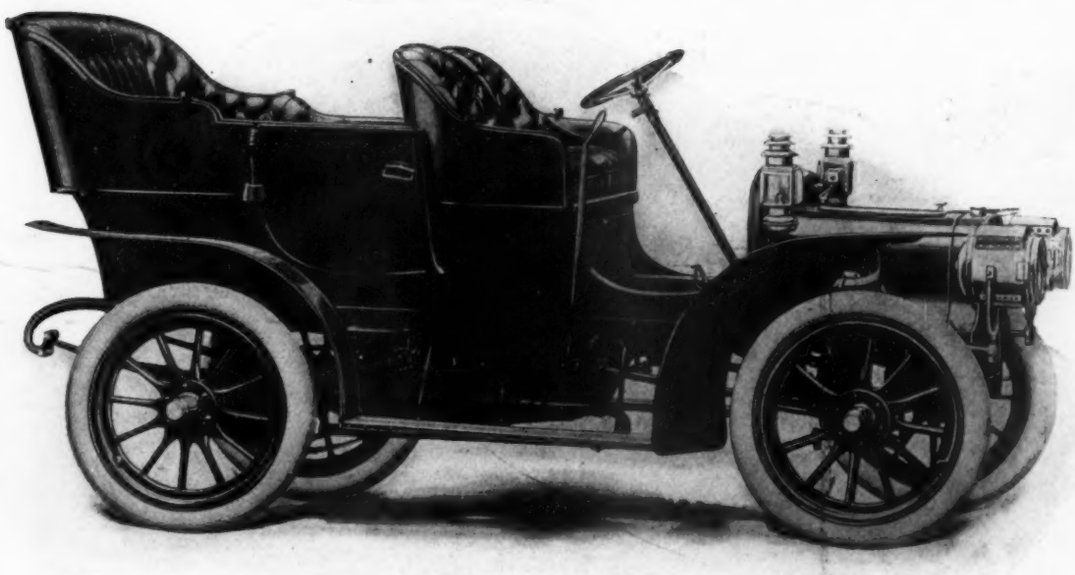
COLUMBUS ELECTRIC VICTORIA, 11-2 H.P. ELECTRIC.
Columbus Buggy Co., Columbus, O.

BABCOCK ELECTRIC VICTORIA PHAETON, NO. 6, PRICE $1,700.
Babcock Electric Carriage Co., Buffalo, N. Y.

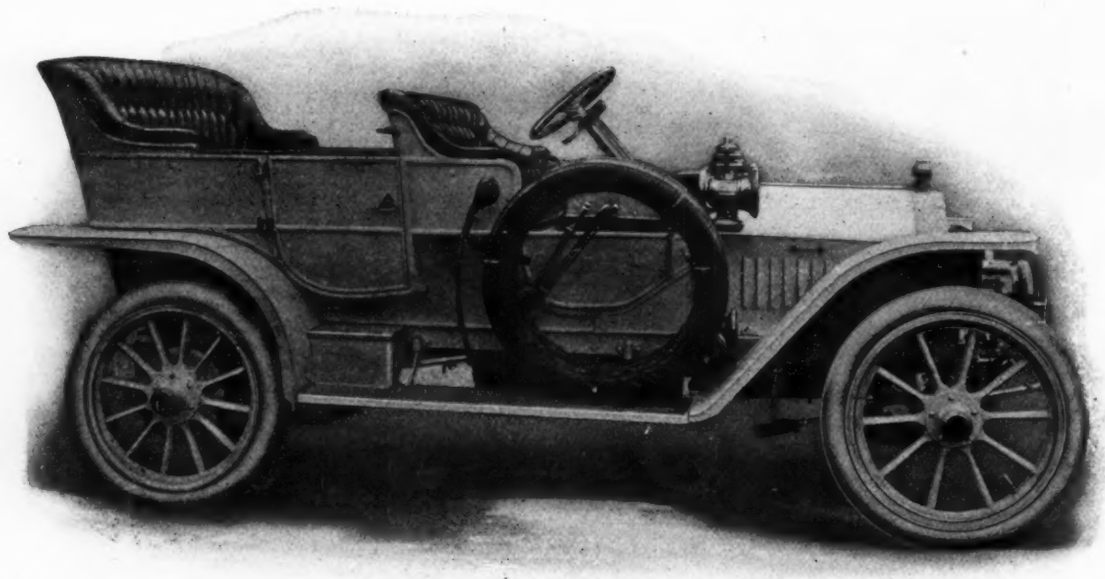


CORBIN TOURING CAR, WATER-COOLED, 4 CYLINDERS, 32-H.P., PRICE $2,650.
Corbin Motor Vehicle Corporation, New Britain, Conn.

A·L·A·M 1908

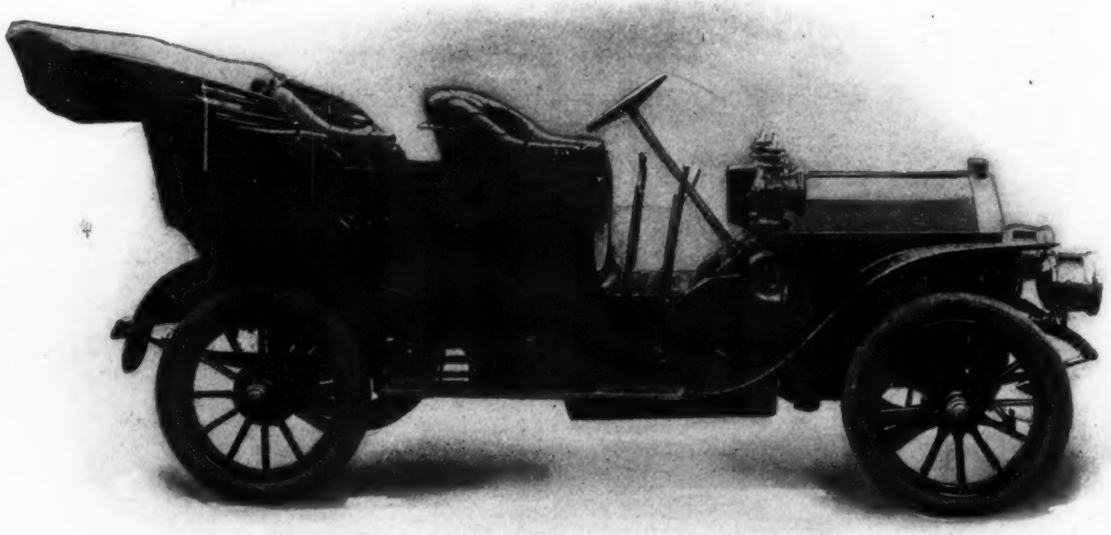


CADILLAC TOURING CAR, MODEL T, 1 CYLINDER, 10-H.P., PRICE $1,000.
Cadillac Motor Car Co., Detroit, Mich.

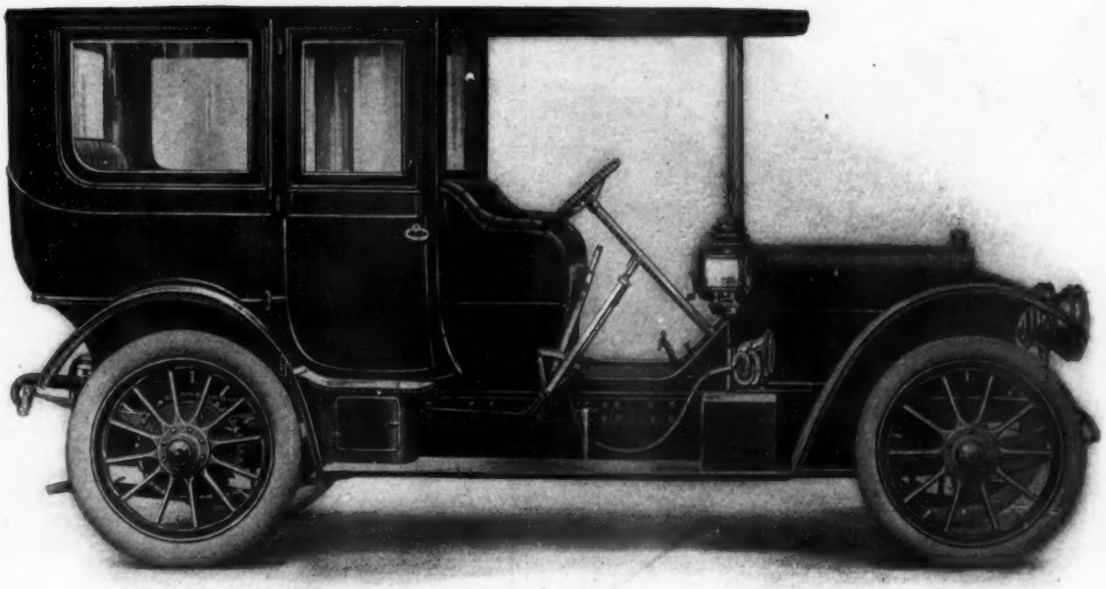


OLDSMOBILE TOURING CAR, MODEL M, 4 CYLINDERS, 36-H.P., PRICE $2,750.
Olds Motor Works, Lansing, Mich.

A·L·A·M 1908

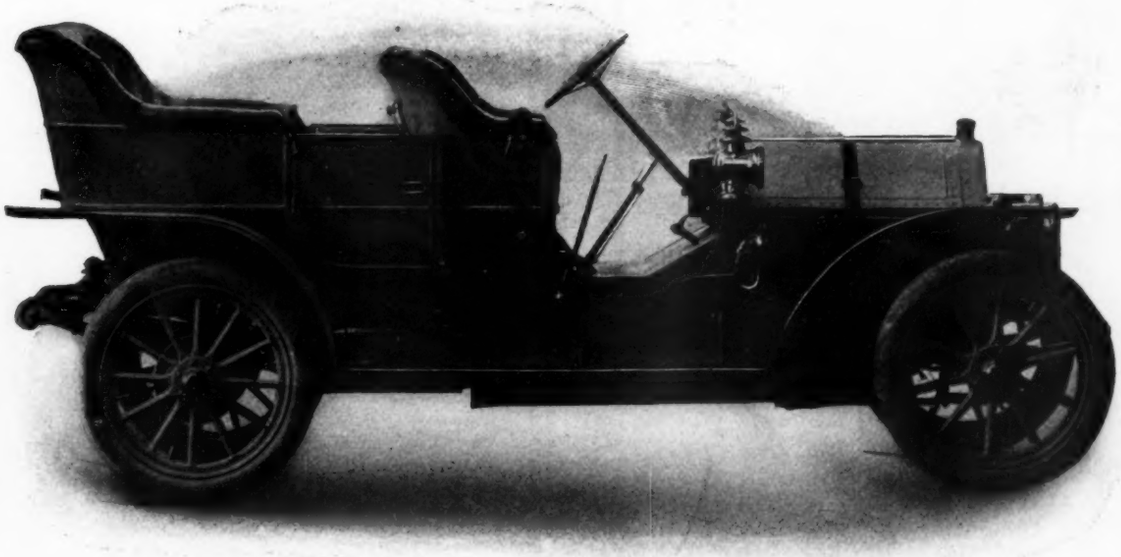


KNOX WATER-COOLED TOURING CAR, MODEL L, 4 CYLINDERS, 30-H.P., PRICE $2,700.
Knox Automobile Co., Springfield, Mass.

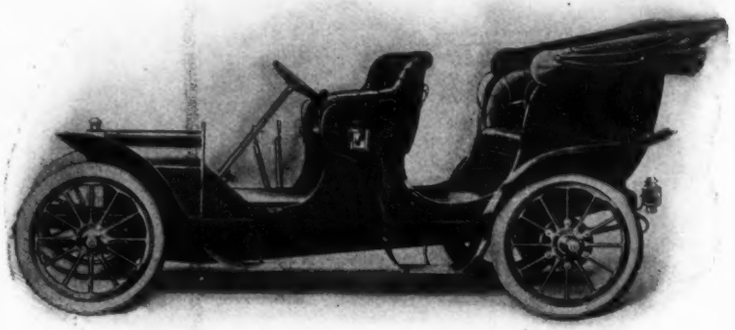


STEARNS LIMOUSINE, 4 CYLINDERS, 30-H.P., PRICE $5,750.
F. B. Stearns Company, Cleveland, O.

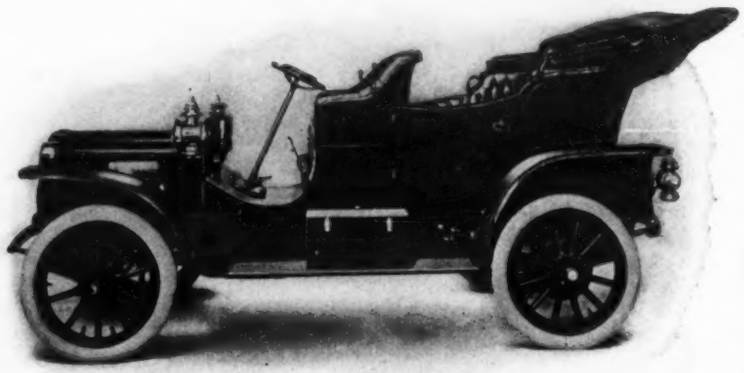
A·L·A·M 1908



THOMAS DETROIT TOURING CAR, 4 CYLINDERS, 40-H.P., PRICE $2,750.
E. R. Thomas Motor Co., Buffalo, N. Y.

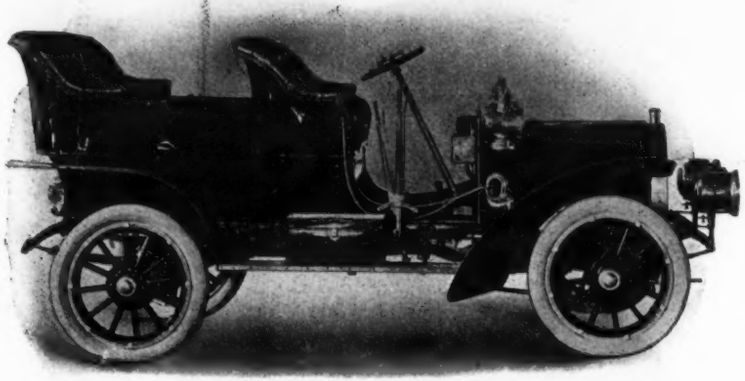


THOMAS CABRIOLET, 4 CYLINDERS, 20-H.P., PRICE $3,000.
E. R. Thomas Motor Co., Buffalo, N. Y.

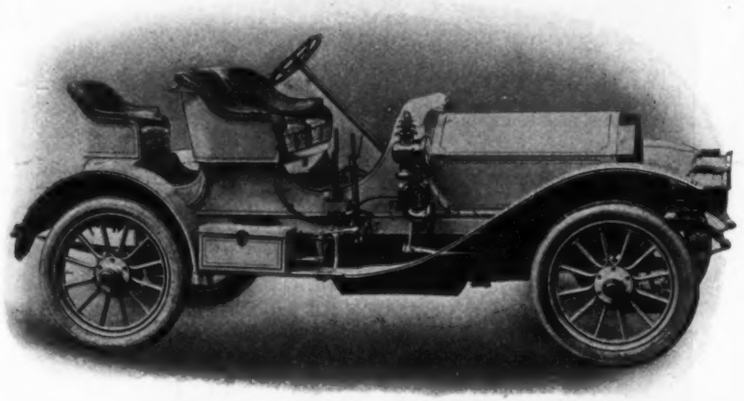


WHITE STEAMER, MODEL L, 20-H.P., PRICE $2,500.
White Company, Cleveland, O.

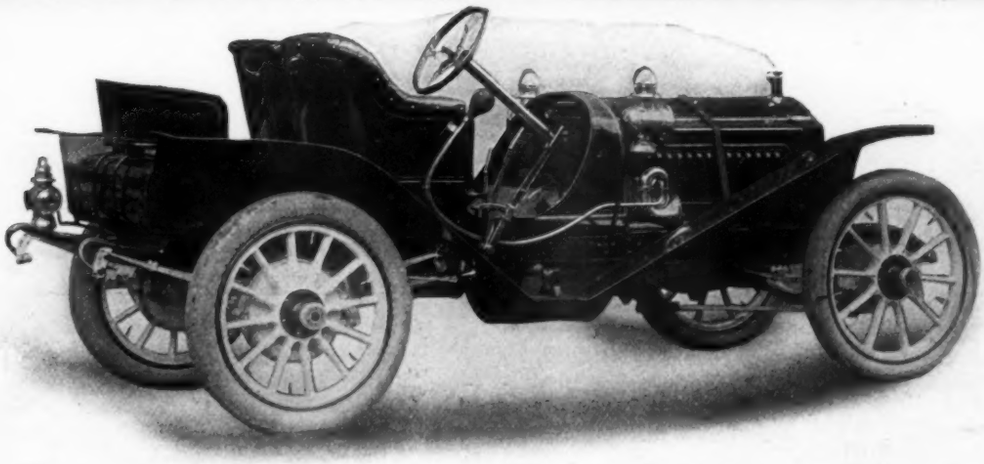
19 A.L.A.M. 08



STEVENS-DURYEA TOURING CAR, 6 CYLINDERS, 35-H.P.,
PRICE $3,500.
Stevens-Duryea Co., Chicopee Falls, Mass.



KNOX SPORTABOUT, 4 CYLINDERS, 25-H.P., PRICE $2,500.
Knox Automobile Co., Springfield, Mass.



PACKARD RUNABOUT, 4 CYLINDERS, 30-H.P., PRICE $4,200.
Packard Motor Car Co., Detroit, Mich.

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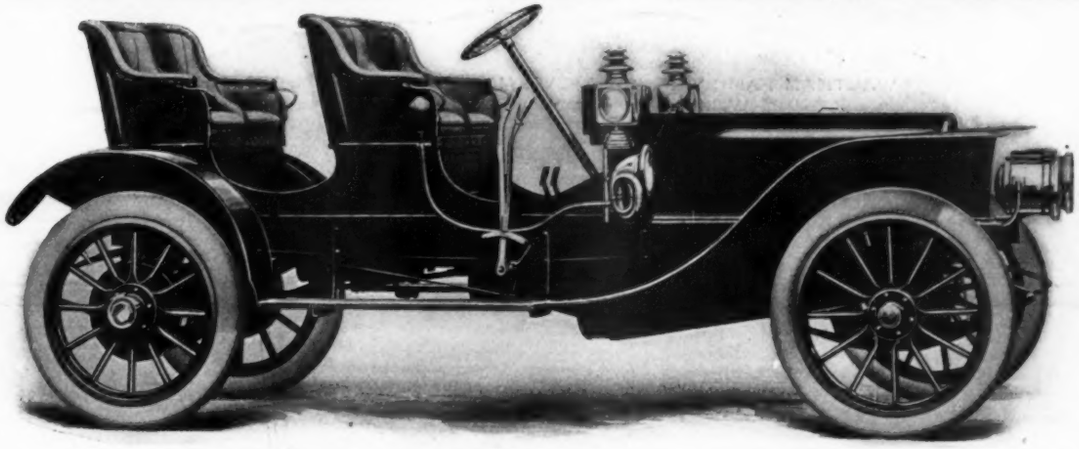

FRANKLIN RUNABOUT, MODEL H, 6 CYLINDERS, 42-H.P., PRICE $4,000.
H. H. Franklin Manufacturing Co., Syracuse, N. Y.

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STUDEBAKER SPEEDCAR, 4 CYLINDERS, 27-H.P., PRICE $3,500.
Studebaker Automobile Company, South Bend, Ind.

WALTHAM FAMILY TOURING CAR, MODEL 158, 2 CYLINDERS, 14-H.P.
Waltham Manufacturing Co., Waltham, Mass.

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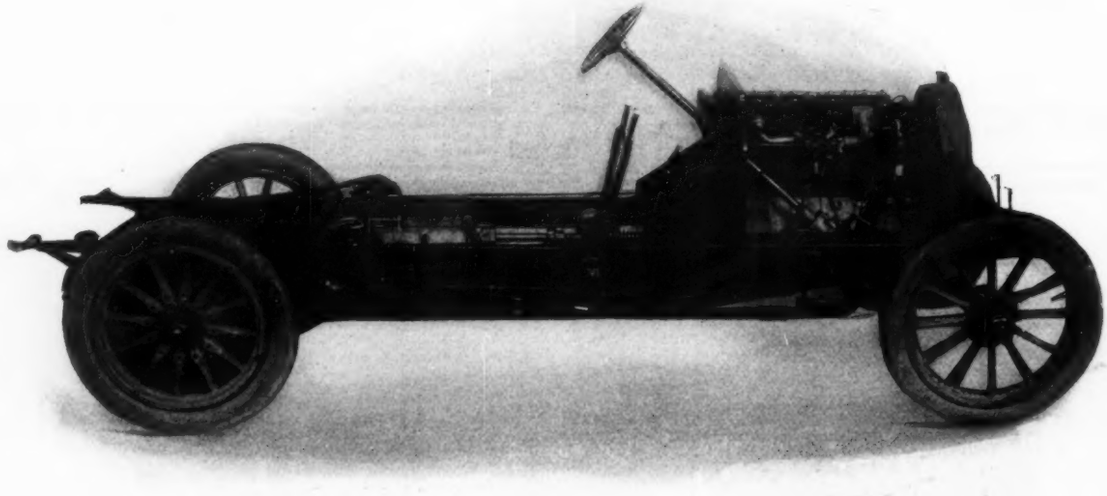
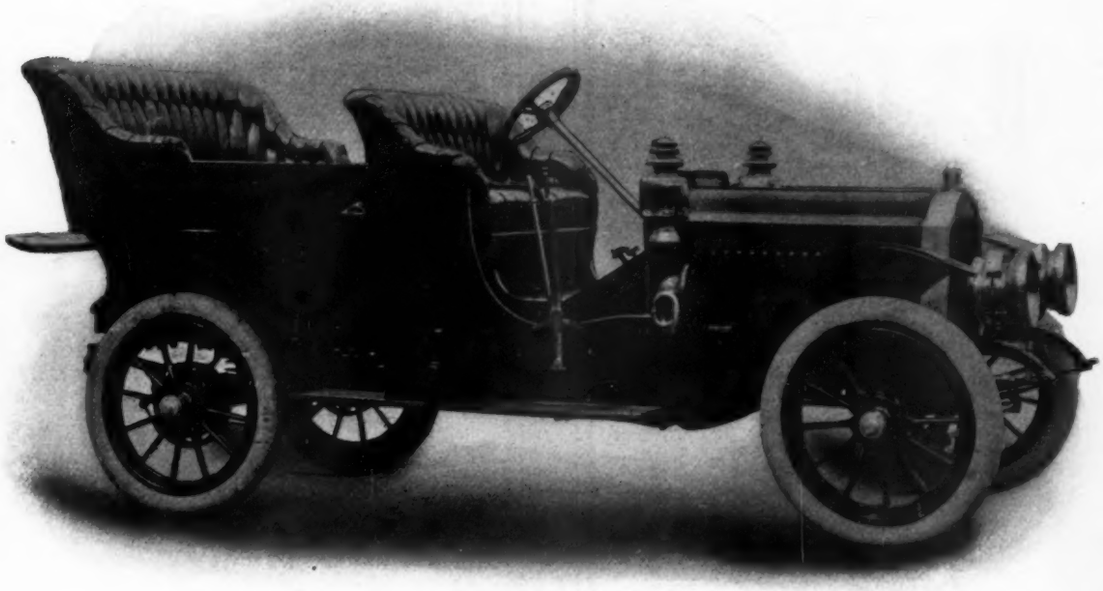
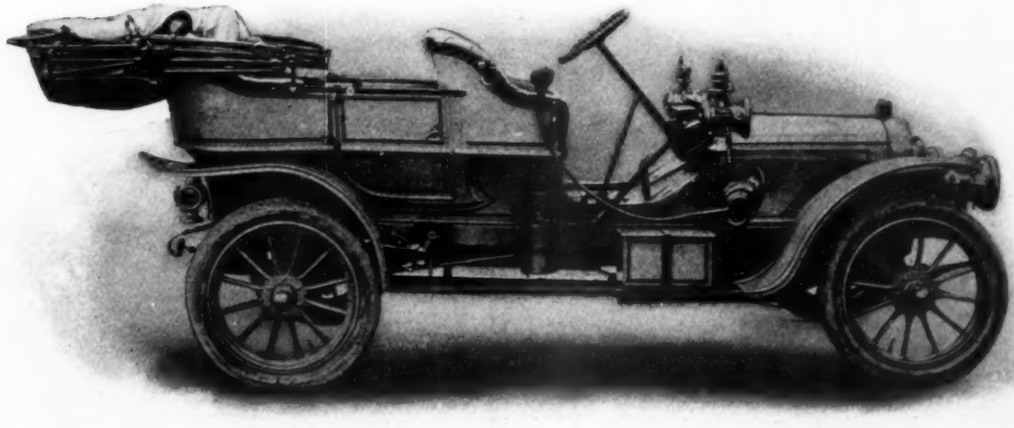


MATHESON CHASSIS, 4 CYLINDERS, 45-H.P., PRICE, TOURING CAR, $5,500.
Matheson Motor Car Co., Wilkes-Barre, Pa.

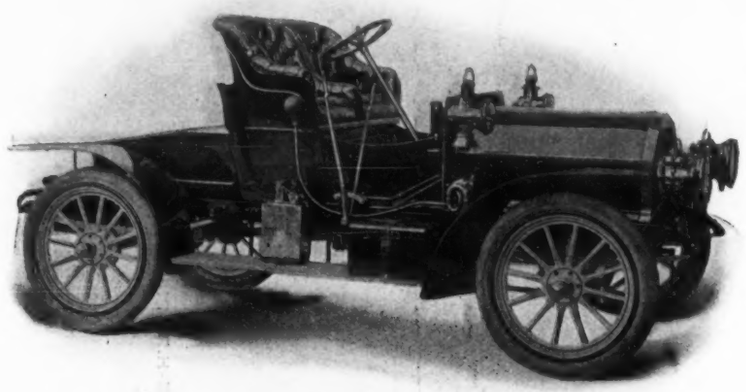


ELMORE TOURING CAR, 4 CYLINDERS, 35-H.P., PRICE $2,500.
Elmore Manufacturing Co., Clyde, O.

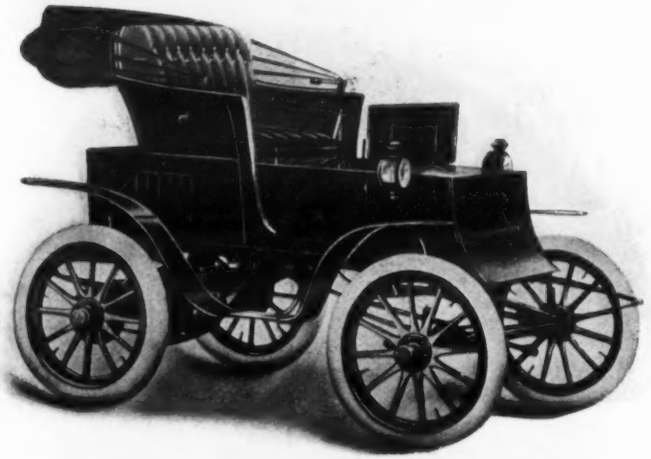
A·L·A·M 1908



HAYNES TOURING CAR, MODEL W, 4 CYLINDERS, 45-H.P., PRICE $3,000.
Haynes Automobile Co., Kokomo, Ind.

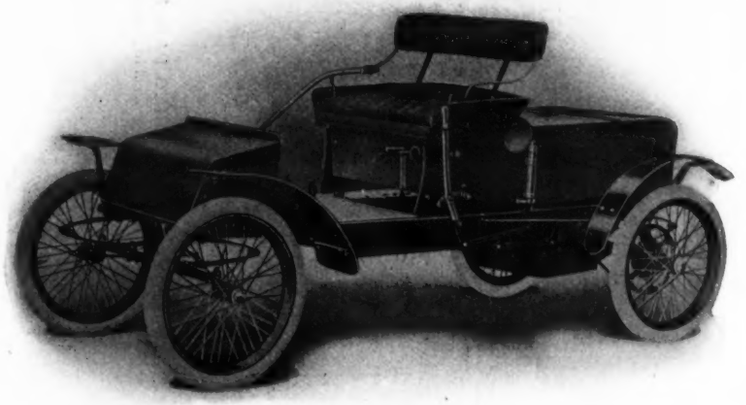


WALTHAM TOURING CAR, MODEL DLR., 4-CYL., 20-H.P., $1,750.
Waltham Manufacturing Co., Waltham, Mass.

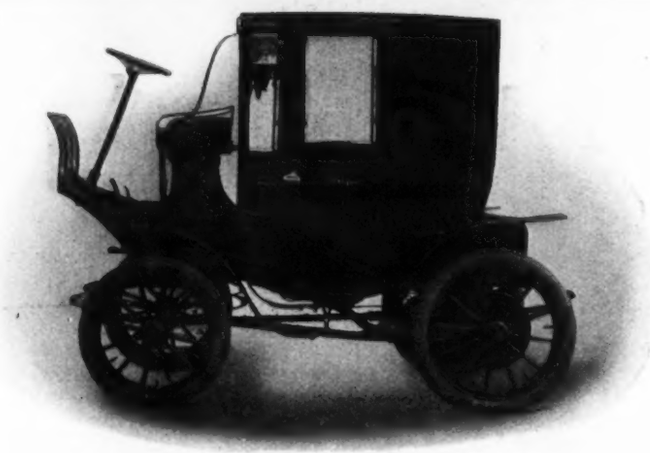


POPE-WAVERLY ELECTRIC RUNABOUT, PRICE $1,425.
Pope Motor Car Co., Indianapolis, Ind.

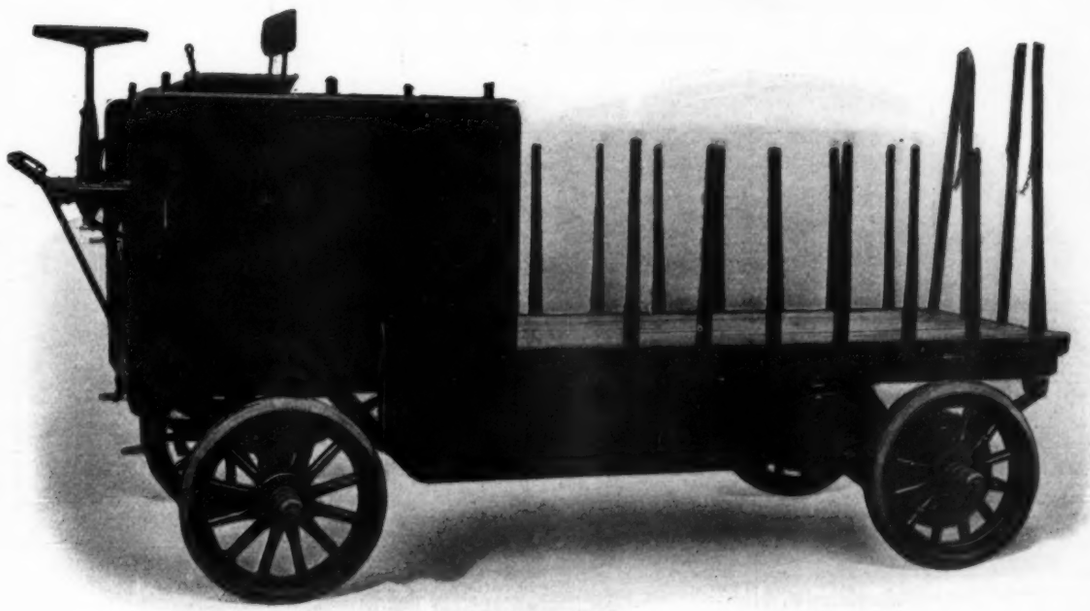
19 A.L.A.M. 08



WALTHAM RUNABOUT, MODEL 18, 2 CYLINDERS, PRICE $400.
Waltham Manufacturing Co., Waltham, Mass.

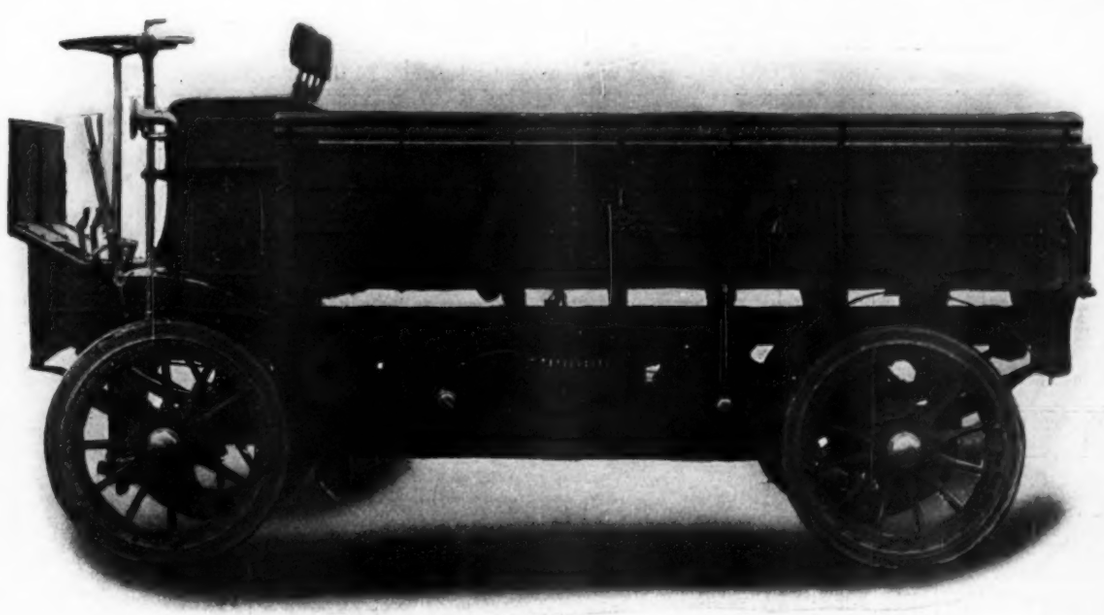


BABCOCK ELECTRIC COUPE, MODEL 10, PRICE $2,100.
Babcock Electric Carriage Co., Buffalo, N. Y.



STUDEBAKER ELECTRIC TRUCK, LOAD-CARRYING CAPACITY 7,000 POUNDS.
Studebaker Automobile Company, South Bend, Ind.

A·L·A·M 1908



KNOX EXPRESS DELIVERY VEHICLE, 2 CYLINDERS, 16-H.P., PRICE $2,800.
Knox Automobile Co., Springfield, Mass.

A. L. A. M. 1908 MODELS AT GARDEN SHOW

CLASSIFIED ON SELLING PRICE BASIS.

COSTING LESS THAN $1,000

CAR	Price	H.P.	Cylinders	Body	Seats	Ignition	Clutch	Transmission	Drive	Wheelbase	W'ght
WALTHAM, Model 28	$600	8	2	Runabout		Storage battery	Cone	Progressive	Shaft	84	700
COLUMBUS	750	10	1	Buggy	2	Storage battery	Disc	Progressive	Side chains	72	
CADILLAC, Model S	850	10	1	Runabout	2	Storage battery	Disc	Planetary	Chain	82	
BUICK	850	20	4	Runabout	3	Storage battery	Disc	Planetary	Single chain		

COSTING BETWEEN $1,000 AND $2,000

CAR	Price	H.P.	Cylinders	Body	Seats	Ignition	Clutch	Transmission	Drive	Wheelbase	W'ght
CADILLAC, Model T	$1,000	10	1	Touring	4	Storage battery	Disc	Planetary	Chain	82	
HEWITT	1,000	10	1	Runabout	3	Storage battery	Disc	Planetary	Chain	84	1,200
AUTOCAR, Model XV	1,200	12	2	Runabout	3	Storage battery	Ring	Progressive	Shaft	80	
BUICK	1,250	22	2	Touring	5	Storage battery	Disc	Planetary	Single chain		
CADILLAC, Model T	1,350	10	1	Coupé	2	Storage battery	Disc	Planetary	Chain	82	
NORTHERN, Model C	1,600	24	2	Touring	5	Storage battery	Disc	Planetary	Shaft	106	2,200
ELMORE, Model L	1,750	24	3	Touring	5	Storage battery	Ring	Selective	Shaft	102	
FRANKLIN, Model G	1,750	16	4	Runabout	2	Storage battery	Disc	Selective	Shaft	90	1,400
WALTHAM, Model DLR	1,750	20	4	Touring	5	Storage battery	Cone	Progressive	Shaft	96	1,600
FRANKLIN, Model G	1,850	16	4	Touring	4	Storage battery	Disc	Selective	Shaft	90	1,600
OLDSMOBILE, Model X	1,900	32	4	Touring	5	Storage battery	Cone	Selective	Shaft	106	

COSTING BETWEEN $2,000 AND $3,000

CAR	Price	H.P.	Cylinders	Body	Seats	Ignition	Clutch	Transmission	Drive	Wheelbase	W'ght
CADILLAC, Model G	$2,000	25	4	Touring	5	Storage battery	Disc	Selective	Shaft	100	2,180
SELDEN	2,000	25	4	Touring	5	Storage battery	Cone	Selective	Shaft	109	1,850
BUICK	2,250	30	4	Touring	5	Storage battery	Disc	Planetary	Single chain		
WHITE STEAMER, Model L	2,400	20	2	Runabout	3				Shaft	104	
CADILLAC, Model H	2,500	30	4	Touring	5	Storage battery	Disc	Planetary	Shaft	102	2,880
ELMORE, Model M	2,500	35	4	Touring	5	Storage battery	Expanding ring	Selective	Shaft	108	
HAYNES, Model S	2,500	30	4	Touring	5	Storage battery	Band	Selective	Shaft	102	2,250
KNOX, Model H	2,500	25	4	Stanhope	3	Storage battery	Cone	Selective	Shaft	102	
STEVENS-DURYEA, Model R	2,500	20	4	Touring	5	Storage battery	Disc	Selective	Shaft	90	2,000
WHITE STEAMER, Model L	2,500	20	2	Touring	5				Shaft	114	
BUICK	2,550	40	4	Touring	7	H. T. Magneto		Selective	Shaft		
KNOX	2,600	25	4	Touring	5	Storage battery	Cone	Selective	Shaft	102	
CORBIN, Model S	2,650	32	4	Roadster	4	H. T. Magneto	Cone	Selective	Shaft	108	
Model R (air)	2,650	32	4	Touring	5	H. T. Magneto	Cone	Selective	Shaft	108	
Model K (water)	2,650	32	4	Touring	5	H. T. Magneto	Cone	Selective	Shaft	108	
KNOX, Model L	2,700	30	4	Touring	5	Storage battery	Cone	Selective	Shaft	102	
APPERSON, Model M	2,750	30	4	Roadster	4	H. T. Magneto	Band	Selective	Shaft	106	2,400
AUTOCAR, Model XIV	2,750	30	4	Touring	5	Storage battery	Ring	Selective	Shaft	112	
OLDSMOBILE, Model M	2,750	36	4	Touring	5	H. T. Magneto	Cone	Selective	Shaft	112	2,800
POPE-HARTFORD, Model M	2,750	30	4	Touring	5	H. T. Magneto	Cone	Selective	Shaft	112	
STEVENS-DURYEA, Model X	2,750	24	4	Touring	5	Magneto	Disc	Selective	Shaft	124	2,600
THOMAS-DETROIT, 4-40	2,750	40	4	Touring	5	Storage battery	Cone	Selective	Shaft	112	2,530
NORTHERN, Model C	2,800	24	2	Limousine	7	Storage battery	Disc	Planetary	Shaft	106	2,800
FRANKLIN, Model D	2,850	28	4	Touring	5	H. T. Magneto	Disc	Selective	Shaft	105	2,200
LOCOMOBILE, Model E	2,900	20	4	Touring	5	L. T. Magneto	Cone	Selective	Side chains	102	2,000

COSTING BETWEEN $3,000 AND $4,000

CAR	Price	H.P.	Cylinders	Body	Seats	Ignition	Clutch	Transmission	Drive	Wheelbase	W'ght
CADILLAC, Model G	$3,000	25	4	Limousine	5	Storage battery	Cone	Selective	Shaft	100	
COLUMBIA, Model M-K	3,000	29	4	Touring	5	L. T. Magneto	Cone	Selective	Shaft	109	2,350
HAYNES, Model W	3,000	45	4	Touring	5	H. T. Magneto	Band	Selective	Shaft	106	2,650
THOMAS, 4-20	3,000	20	4	Laudaulet	6	H. T. Magneto	Cone	Selective	Shaft	100	1,900
SELDEN	3,200	25	4	Limousine	5	Storage battery	Cone	Selective	Shaft	109	2,000
WHITE STEAMER, Model L	3,200	20	2	Limousine	5				Shaft	104	
STEVENS-DURYEA, Model R	3,300	20	4	Limousine	5	Storage battery	Disc	Selective	Shaft	90	2,300
WHITE STEAMER, Model K	3,500	30	2	Runabout	3				Shaft	105	
CORBIN, Model R	3,500	32	4	Limousine	5	H. T. Magneto	Cone	Selective	Shaft	108	
KNOX, Model H	3,400	25	4	Limousine	5	Storage battery	Cone	Selective	Shaft	102	
NORTHERN, Model L	3,500	40	4	Touring	7	Storage battery	Cone	Progressive	Shaft	119	3100
STEVENS-DURYEA, Model U	3,500	35	6	Touring	5	Storage battery	Disc	Selective	Shaft	114	2,500
STUDEBAKER, Model A	3,500	27	4	Touring	5	L. T. Magneto	Cone	Progressive	Shaft	104	
CADILLAC, Model H	3,600	30	4	Limousine	7	Storage battery	Disc	Planetary	Shaft	102	
WHITE STEAMER, Model K	3,700	30	2	Touring	7				Shaft	102	
AUTOCAR, Model XIV	3,750	30	4	Touring	5	Storage battery	Ring	Selective	Shaft	112	
MAYNES, Model U	3,750	60	4	Touring	7	H. T. Magneto	Band	Selective	Shaft	118	3,000
OLDSMOBILE, Model M	3,800	36	4	Limousine	7	H. T. Magneto	Cone	Selective	Shaft	122	

COSTING BETWEEN $4,000 AND $5,000

CAR	Price	H.P.	Cylinders	Body	Seats	Ignition	Clutch	Transmission	Drive	Wheelbase	W'ght
FRANKLIN, Model H	$4,000	42	6	Touring	7	H. T. Magneto	Disc	Selective	Shaft	127	2,500
LOZIER, Model G	4,000	40	4	Touring	7	H. T. Magneto	Disc	Selective	Side chains	117	3,150
OLDSMOBILE, Model M	4,000	36	4	Landaulet	7	H. T. Magneto	Cone	Selective	Shaft	112	
ROYAL TOURIST	4,000	45	4	Touring	7	H. T. Magneto	Cone	Selective	Shaft	114	
STUDEBAKER, Model B	4,000	36	4	Touring	7	L. T. Magneto	Cone	Selective	Shaft	114	
APPERSON, Model K	4,200	50	4	Touring	7	H. T. Magneto	Band	Selective	Side chains	114	3,200
COLUMBIA, Model 48-2	4,200	29	4	Limousine	5	L. T. Magneto	Cone	Selective	Shaft	115	2,750
LOCOMOBILE	4,200	20	4	Limousine	6	L. T. Magneto	Cone	Selective	Side chains	116	2,600
OLDSMOBILE, Model Z	4,200	48	6	Touring	7	H. T. Magneto	Cone	Selective	Shaft	103	3,200
PACKARD, "Thirty"	4,200	30	4	Touring	7	H. T. Magneto	Band	Progressive	Shaft	123	2,950
STUDEBAKER, Model H	4,200	27	4	Limousine	7	L. T. Magneto	Cone	Progressive	Shaft	104	
PEERLESS	4,300	30	4	Touring	7	H. T. Magneto	Band	Selective	Shaft	118	
STEVENS-DURYEA, Model U	4,500	35	6	Limousine	7	Storage battery	Disc	Selective	Shaft	114	2,860
THOMAS-FLYER	4,500	60	4	Touring	7	H. T. Magneto	Disc	Selective	Side chains	127	3,200
WINTON, Six-Teen-Six	4,500	48	6	Touring	7	H. T. Magneto	Disc	Selective	Shaft	120	
WHITE STEAMER, Model K	4,500	30	2	Limousine	7				Shaft	116	
STEARNS	4,600	30	4	Light Touring	4	H. T. Magneto	Expanding	Selective	Side chains	120	2,800
PACKARD, "Thirty"	4,700	30	4	Touring	7	H. T. Magneto	Band	Progressive	Shaft	123	
LOCOMOBILE	4,750	20	4	Touring	7	H. T. Magneto	Cone	Selective	Side chains	123	3,000
POPE-TOLEDO, Model XVII	4,750	50	4	Touring	7	H. T. Magneto	Disc	Selective	Side chains	126	
STEARNS	4,750	30	4	Pullman Tour	7	H. T. Magneto	Expanding	Selective	Side chains	120	3,200

COSTING BETWEEN $5,000 AND $6,000

CAR	Price	H.P.	Cylinders	Body	Seats	Ignition	Clutch	Transmission	Drive	Wheelbase	W'ght
APPERSON JACK RABBIT	$5,000	50	4	Runabout	2	H. T. Magneto	Band	Selective	Side chains	105	2,200
APPERSON, Model S	5,000	50	6	Touring	7	H. T. Magneto	Band	Selective	Side chains	.....	.....
LOZIER, Model H	5,000	45	4	Touring	7	H. T. Magneto	Disc	Selective	Shaft	124	3,200
PIERCE	5,000	40	4	Touring	7	H. T. Magneto	Cone	Selective	Shaft	124	.....
ROYAL TOURIST	5,000	45	4	Limousine	7	H. T. Magneto	Cone	Selective	Shaft	114	.....
WALTER	5,000	44	4	Touring	7	H. T. Magneto	Cone	Selective	Shaft	120	.....
FRANKLIN, Model H	5,200	42	6	Limousine	7	H. T. Magneto	Disc	Selective	Shaft	127	2,700
MATHESON	5,500	45	4	Touring	7	L. T. Magneto	Disc	Selective	Side chains	128	3,400
PEERLESS, "Thirty"	5,500	30	4	Limousine	7	H. T. Magneto	Band	Selective	Shaft	118	.....
PIERCE, Small Six	5,500	40	6	Touring	7	H. T. Magneto	Cone	Selective	Shaft	130	.....
SELDEN	5,500	45	4	Touring	7	H. T. Magneto	Disc	Selective	Shaft	123	3,500
WINTON, Six-Teen-Six	5,500	48	6	Limousine	7	H. T. Magneto	Disc	Selective	Shaft	120	.....
PACKARD, "Thirty"	5,600	30	4	Limousine	7	H. T. Magneto	Band	Progressive	Shaft	123	.....
"Thirty"	5,700	30	4	Landaulet	7	H. T. Magneto	Band	Progressive	Shaft	123	.....
STEARNS	5,750	30	4	Limousine	7	H. T. Magneto	Expanding	Selective	Side chains	120	3,600
PEERLESS	5,800	30	4	Landaulet	7	H. T. Magneto	Expanding	Selective	Shaft	118	.....

COSTING $6,000 AND ABOVE

LOZIER, Model I	6,000	50	6	Touring	7	H. T. Magneto	Disc	Selective	Shaft	131	3,425
PEERLESS	6,000	60	6	Touring	7	H. T. Magneto	Band	Selective	Shaft	134	.....
STEVENS-DURYEA, Model S	6,000	50	6	Touring	7	Storage battery	Disc	Selective	Shaft	122	3,700
THOMAS, Special	6,000	70	6	Touring	7	H. T. Magneto	Disc	Selective	Side chains	136	3,500
PIERCE	6,250	40	4	Suburban	7	H. T. Magneto	Cone	Selective	Shaft	124	.....
STEARNS	6,250	45	6	Light Touring	4	H. T. Magneto	Expanding	Selective	Side chains	133	3,000
COLUMBIA, Model 66-3	6,500	48	4	Touring	7	H. T. Magneto	Electric	Electric	Shaft	124	3,650
MATHESON	6,500	45	4	Limousine	7	L. T. Magneto	Disc	Selective	Side chains	128	3,600
PIERCE	6,500	60	6	Touring	7	H. T. Magneto	Disc	Selective	Shaft	135	.....
APPERSON, Model X	7,500	96	4	Runabout	2	H. T. Magneto	Band	Selective	Side chains	110	.....
COLUMBIA, Model 66-3	8,500	48	4	Limousine	7	H. T. Magneto	Electric	Electric	Shaft	124	3,850

NOTE—Horsepower in nearly every case has been determined according to the A. L. A. M. formula, fractions being ignored; whenever a manufacturer gave a hyphenated horsepower the lower figures have been taken. In many cases where ignition is obtained from a magneto, storage batteries are supplied either as a stand-by or as part of another complete ignition system; in such cases magneto only is quoted. Wherever a touring and runabout body or limousine and landaulet body are fitted on the same chassis without any alteration of price, touring and limousine only are quoted in each case.

ELECTRIC PLEASURE VEHICLES FROM $1,350 TO $4,000

CAR	Price	Battery	Body	Seats	Drive	Wheelbase	Weight
STUDEBAKER, 22-A	$1,350	28 cells	Runabout	2	Side chains	67	1,875
22-C	1,400	28 cells	Stanhope	2	Side chains	67	1,875
.....	1,425	30 cells	Runabout	2	.....	69	.....
BABCOCK, Model 5	1,500	36 cells	Runabout	2	Side chains	78	1,600
POPE-WAVERLY, 70-C	1,600	30 cells	Victoria Phaeton	2	.....	68	.....
BABCOCK, Model 6	1,700	36 cells	Victoria	2	Side chains	78	1,700
STUDEBAKER, 16-d	1,750	28 cells	Victoria Phaeton	2	Side chains	68	2,000
BABCOCK	1,800	40 cells	Stanhope	2	Gear and pinion	66	1,900
BAKER	1,800	.....	Victoria	2	Chain	70	1,800
BABCOCK, Model 10	2,100	36 cells	Coupe	2	Side chain	78	1,950
BAKER	2,200	.....	Coupe	2	Chain	70	2,000
BAKER	2,500	.....	Roadster	3	Shaft	95	2,400
BABCOCK	4,000	40 cells	Brougham	8	Gear and pinion	72	3,000
BAKER	4,000	.....	Landaulet	4	Shaft	89	4,000
COLUMBUS, Model 1000	.....	.....	Stanhope	2	Side chains	69	.....
Model 1001	.....	.....	Victoria	2	Side chains	69	.....
Model 1002	.....	.....	Coupe	2	Side chains	69	.....
Model 1100	.....	.....	Surrey	4	Side chains	89	.....
WOODS	.....	.....	.....	.....	.....	.....	.....
GENERAL ELECTRIC CO	.....	.....	.....	.....	.....	.....	.....
RAUCH & LANG	.....	.....	.....	.....	.....	.....	.....

(Continued from page 614.)

ADVANCES REVEALED BY LICENSED CARS.

Advances have not been confined to the power-plant or its accessories, as it is quite evident that the average designer has been keen to discern possible places for improvement and has taken advantage of them. Though but a few years ago, the time when engineers exclaimed with alarm at the enormous increase made in wheelbase lengths has been forgotten and an extra inch or two, even when added on to what was long thought to be a dangerous excess over the point of safety, no longer excites any comment. With one or two special exceptions such as that of the Franklin, practice in frame design appears to have reached an exceedingly well-defined standard even where general frame design is in question, as the sub-frame is now only seen occasionally.

Naturally the thing that will take the attention of the average visitor is the collection of "sixes," but as in the majority of instances they do not represent special designs, they have not been treated in the usual sequence under the head of advances. One striking exception to this is the new Lozier of this type, while others who will stage sixes are the Apperson, Peerless, Oldsmobile, and Winton. These are all new entrants into this field, while those who showed sixes last year were the Stevens-Duryea, Franklin, and Pierce. The first-named again shows both a "Big" six and a "Little," and this is also true of the Pierce, the smaller model of this type being a new design in which have been incorporated numerous features of merit.

With the Electrics and Commercial Cars.

Electric vehicle design has always closely followed the carriage makers' standards where lines, construction, and finish are concerned, and the first maker to break away from the latter is the General Vehicle Company, which exhibits a line of pleasure vehicles patterned more after those of the gasoline type than ever before, both where design and finish are concerned. The Baker, Babcock, Pope, and Studebaker companies show full lines of their electric cars, about which there is little that can be said under the head of general tendencies, at any rate, as these remain practically the same throughout where both design and construction are concerned.

Where commercial vehicles are concerned, there is a more representative showing than has been the case formerly. The Packard Company has developed a special type of gasoline-driven truck, and this is also true of the Franklin. Quite the most striking development in this field, however, is the appearance of the Alden Sampson gasoline-electric train. Other exhibits are to be the Champion wagons and the Studebaker, Pope and General Electric commercial vehicles, of which as comprehensive a showing as the Garden has ever housed will be exhibited in the basement.

SOMETHING ABOUT THE CARS AT THE GARDEN

ALDEN SAMPSON.—By far the most striking exhibit to be found in the commercial section of the show is that of the Alden Sampson Manufacturing Company, Pittsfield, Mass. This concern has been closely identified with the automobile industry in this country for the past six years, but the present constitutes the first product to be exhibited for several years. It consists of a special form of tractor, which has been given the title of the Gas-Electric Road Train, from the fact that the motive power is originally supplied by a gasoline motor of the standard type, direct coupled to an electric generator. This furnishes current to the tractor's motors and to two trailers, the motors being mounted on an independent truck. All three carry a load aggregating twenty tons. Both the control and steering are centered on the tractor, making the train easily handled by one man. On the level with full load its speed is six m. p. h. This firm is also building three and five-ton trucks, in addition to which it will devote attention to the manufacture of pleasure cars.

Apperson.—In addition to the standard 50-55-horsepower Apperson touring car, and the well-known "Jack-Rabbit," there is a new Apperson for 1908, rated at 30-35 horsepower, and, to quote the maker's preliminary announcement: "Although this car is offered at a much lower price than that at which any Apperson car has heretofore been sold, this new model will, in every respect, including material, workmanship, style, reliability and low cost of maintenance, come up to the regular standard of Apperson quality." Its specifications are also patterned after those of the standard Apperson type as represented in the other cars of the line, a four-cylinder, 4 3-4 by 5-inch, individual cylinder, vertical, water-cooled motor forming the power plant, while the transmission consists of a three-speed sliding gear of the selective type with final drive by shaft. There will also be included in the Apperson line a six-cylinder 50-55-horsepower touring car along similar lines to those of the four-cylinder car of this power.

Autocar.—Improvement of the substantial, conservative order, which is not heralded with much ado at the opening of each new season, has always characterized the Autocar Company, Ardmore, Pa., and this policy has been strictly adhered to in the planning of the 1908 line. Despite the fact that the multi-cylindered car is now on the crest of the wave, the Autocar designers have neither produced a six-cylindered car nor let the demand of the moment undermine their judgment, and have accordingly continued the popular two-cylinder runabout so long associated with the name. This is the only car of its kind in the entire show. Its construction has been standardized to such an extent that any description of its features would be but a repetition of what has gone before, as ever since its inception the design has been retained intact, improvements being confined to detail. The other member of the line is the 30-horsepower Autocar touring type, which is also fitted with runabout and limousine bodies, and the specifications of which are equally familiar to the average American autoist.

Baker.—After exhaustive study of the problem, supplemented by a great deal of experimenting, the Baker Motor Vehicle Company, Cleveland, O., will bring out for 1908 a one-ton electric commercial vehicle embodying the results of their extensive experience in the building of electric cars, as well as what they have learned from their past two or three years' study of commercial vehicle needs. It will be fitted with either an open or a delivery body. Another new Baker is an inside-driven coupé, which is mounted on a standard chassis and is interchangeable with a victoria body, while the line is still further supplemented by the addition of a new brougham. The Baker roadster, which created no little interest when shown for the first time last year, has been improved until its maximum speed is now 40 miles an hour, while its touring radius at a 14-mile speed is practically 100 miles. Numerous detailed improvements have been made in the line as a whole, but nothing of a radical nature.

Babcock.—The name Babcock has been synonymous with electric pleasure vehicles ever since it has been connected with the automobile industry, and the makers, the Babcock Electric Carriage Company, Buffalo, N. Y., have done a great deal to enhance the reputation for quiet, easy running, and everyday reliability in all weathers that the electric vehicle has achieved. Five models are listed and will be shown by the New York agents, Wyckoff, Church & Partridge. These are the Model 10, inside-driven coupé; Model 6, Victoria; Model 1, special stanhope; Model 5, long-distance runabout, and a brougham. Models 10 and 6 are practically the same chassis, and the coupé and Victoria bodies are interchangeable. The battery equipment has been divided, and with the motor slung under the center of the body the weight is very evenly distributed. Models 5 and 6 have a maximum speed range of 26 miles an hour and a single-charge radius of 75 miles, the others being slightly less owing to increased weight.

Buick.—Complying with its promises of a year ago, the Buick Motor Company, Flint and Jackson, Mich., will reveal at the show their new four-cylinder offering in the shape of a three-seated runabout listed at $850, of which a large number are to be turned out during the season of 1908. In making additions to the Buick line, cars have been added at either end so to speak, as the new offerings consist of the popular-priced machine just referred to, and a seven-passenger, 40-horsepower touring car, fitted with Bosch magneto, Michelin tires, and other features only to be found on cars of the highest grade, although this newcomer is listed at $2,550. It is known as Model 5, while the runabout is Model 10. The latter has a standard four-cylinder motor which is practically a replica of the larger size and is rated at 20-25 horsepower, the transmission consisting of a two-speed planetary gear and single-chain drive. The other cars shown are the Model S, two-cylinder, 22-horsepower, the Model F, four-cylinder, 30-horsepower touring, and the roadster on the last-named chassis.

Corbin.—In order to be in a position to meet the demands of its customers who favor either type of motor, the Corbin Motor Vehicle Corporation, New Britain, Conn., decided to duplicate the air-cooled cars of this name, which it has made so justly popular, with a second line which should be the same in practically every particular except that the engine is water-cooled. This decision was arrived at early last spring, and the new car is known as Model K. Under the new A. L. A. M. formula for horsepower calculation, it is rated at the anomalous figure of 32.4 horsepower, but will naturally show a great deal more than this, and under previous methods would have had a rating at least fifty per cent. higher. Both cars are equipped with the standard four-cylinder motor evolved by this firm, a high-tension magneto having been adopted for ignition. A conical type of clutch forms the first step in the transmission of the power, being coupled to a three-speed selective gear-set with final drive by shaft to a standard type of floating rear axle, which differs, however, in being encased in a one-piece housing of Cramp's bronze. Roadster, touring, and limousine types are listed.

Cadillac.—As has been the case with this car in former years, it is listed in a wider range of types and sizes than probably any other car on the market. In refutation of those who have been so confidently predicting the early demise of the single-cylinder type of car all along, the Cadillac Motor Car Company, Detroit, Mich., show their familiar one-cylinder, 10-horsepower chassis with no less than three different bodies. The first is a two-seated runabout, the second a straight-line four-seated touring type, and the third an inside-driven two-seated coupé. In like manner the four-cylinder 25-horsepower Model G is shown in a similar line of bodies, including runabout, touring and limousine types, while the 30-horsepower Model H, also of the four-cylinder type and well-known through its numerous distinctive features of construction, is listed as a touring car and limousine. The single-cylinder chassis is also listed as a delivery wagon, a body of the usual inclosed type being fitted.

Columbia.—The Electric Vehicle Company, Hartford, Conn., furnishes considerable for the technical expert to ponder and study over in the shape of their Columbia gasoline-electric 60-horsepower car, with its simple and extremely smooth-working transmission, which is characterized by its total lack of gears—or, for that matter, any form of mechanical connection. The latter, so to speak, is "floating," in that the bond between the engine and the driving wheels is of the invisible type set up by magnetism, as the field of an electric generator forms the flywheel of the motor, while the armature of the dynamo is solidly attached to the forward end of the propeller shaft. Directly behind the generator, and with its armature also forming a part of the propeller shaft, is an electric motor in which is utilized all the surplus power put into the dynamo by the motor and which appears as electric energy. This provides five forward speeds, any of which may be thrown in or out without the slightest perceptible jerk in the car's speed, control being similar to that used on a street car, but of smaller size. The standard four-cylinder Columbia car is also shown.

Columbus Electric.—As is the case with the gasoline car, inclosed types predominate where electric vehicles are concerned, and the Columbus line, which is the product of the automobile department of the Columbus Buggy Company, Columbus, O., is no exception to the rule. In fact, the wholly open vehicle, with no overhead protection, is no longer in demand, as evidenced by the Columbus line, which consists of a Stanhope, No. 1,000, having a 69-inch wheelbase and 30 by 3 1-2 pneumatic tires on wood artillery wheels; a surrey with top having an 89-inch wheelbase and 34 by 4-inch pneumatics on the same type of running gear; a station wagon, No. 1,102, of similar specifications, and an inside-driven coupé, No. 1,002, on the same chassis as the Stanhope, the bodies of Nos. 1,000, 1,001 and 1,002 being interchangeable. Battery weight is distributed by placing half of the cells in front and half in the rear; twenty-four cells are used, and the mileage varies from 50 to 65 miles, according to the size and weight of the car.

Elmore.—Numerous improvements mark the two Elmore two-cycle models for 1908, which are made by the Elmore Manufacturing Company, Clyde, O. They are known as Model L, which is the three-cylinder car, and the only one of its kind shown in the Garden, and Model M, the four-cylinder two-cycle car. The well-known Atwater-Kent "spark generator" has been made a feature of both, and the same is true of the new Brown-Lipe type of selective change-speed gear. The pedal brake has been removed from the propeller shaft and an external double-acting brake placed on large hubs mounted on the rear wheels substituted. Speaking of the Elmore ignition, the makers state that they have run their cars 2,000 miles on a single set of 6, six-inch dry cells, with the aid of the Atwater-Kent apparatus. The engines in both models have been refined in numerous details, the pistons have been made much thinner, the connecting rods are now drop-forgings, and the muffler has been improved and made much lighter. Betterments have likewise been made on the other parts of the car, such as the adoption of a new and improved steering column, new hubs on the wheels, squared live axle at differential ends, larger ball bearings in front wheels and similar improvements, which have been made wherever the makers found it possible to do so.

Franklin.—"More horsepower" is the Franklin slogan for 1908, and, incidentally, it is well to add that it means more power without a corresponding increase in weight. In bringing this about, the Franklin Automobile Company, Syracuse, N. Y., has evolved an entirely new type of motor. A dome-shaped or spherical combustion chamber has been adopted, together with a very ingeniously worked-out type of concentric valve, thus providing the maximum valve area with the minimum space, this also greatly adding to the cooling ability of the motor by insulating the exhaust valve from the cylinder head, the inlet valve forming the outer of the two valves. Another improvement, which has been in use since early in the present season, is an oil baffle plate in the crank chamber, one of these being placed between the engine base and each cylinder, and having a slot in it for the free movement of the connecting rod, this method placing the oil exactly where it is most needed. The adoption of phosphor bronze cooling flanges is another innovation—in short, the new Type D fairly bristles with improvements and is bound to prove a center of attraction.

General.—Quite a radical departure from previous standards of commercial vehicle design in the electric field is to be noted in the models put forth by the General Vehicle Company, Long Island City, New York. All of the 1908 models to be shown by this company have long semi-elliptic springs, with an unusually long wheelbase and low suspension, which at onces strikes the observer accustomed to seeing business electric vehicles owing to the change in their appearance which this brings about. The exhibit of pleasure vehicles also reveals a radical departure from previous practice, the landaulet, victoria-phaeton, and runabout to be staged, all being built upon pressed steel frames with long semi-elliptic suspension, single motor with differential countershaft, silent chain transmission, and roller bearings. They are also finished in attractive colors in place of the old conservative coach colors so long a feature of such cars. The landaulet is patterned after gasoline car practice to some extent in that the battery is placed under a bonnet forward.

Haynes.—Three distinct types of cars go to make up the Haynes 1908 line, and all are to be included in the exhibit of the makers, the Haynes Automobile Company, Kokomo, Ind. The Haynes is a car of such long standing that it is naturally one of the last in the show on which to look for radical changes of any kind, so that on no one of the three types, rated at 30, 45 and 60 horsepower respectively, is anything of the kind revealed. The 45-horsepower car is a newcomer to the Haynes family, and has been christened Model W; it has been brought out with a view to supplying a lightweight car of ample power and seating capacity, and it has the experience of a great many years of automobile building back of it. It goes without saying that the object of its designers and builders has been achieved in no uncertain manner, particularly as the latter have the entire creation of the car in their hands, making every part from the raw material in their own factory. The motor is of the standard Haynes types and double ignition, using a magneto and accumulators is specified.

Hewitt.—Cars of this make, which are the product of the Hewitt Motor Car Company, New York City, occupy an anomalous position by reason of the fact that they are shown in two extremes where the number of cylinders is concerned, as the Hewitt runabout and town car is equipped with a single-cylinder motor, while the Hewitt touring car is quite at the other end of the line with an eight-cylinder motor, and the only one of its kind to be shown. The latter is of the Renault type, with the cylinders placed at a 90-degree angle, the design being very well worked out, as described in these columns at the time of the car's appearance. This company also devotes considerable of its attention to the production of gasoline-driven

commercial vehicles, from a single-cylinder delivery wagon up to a ten-ton truck, a planetary type of change-speed gear of special design, patented by Mr. Hewitt, being a distinguishing feature of all of them.

Knox.—"Wishing to enjoy the patronage of those who prefer water-cooling, and, at the same time, to allow those preferring water to enjoy the many other desirable and important features of the Knox construction, we have brought out and are now prepared with our Model L, water-cooled car," says the Knox Automobile Company, Springfield, Mass., in one of its preliminary announcements regarding the 1908 line. But except for the fact that its motor is water-cooled, the new Model L is a typical Knox product from bonnet to rear wheels. The motor itself is of far more than passing interest. At first sight it appears to be merely a water-cooled replica of the well-known air-cooling type, but closer inspection reveals the fact that the cylinders are made with separable heads, the valves being in the latter in accordance with Knox practise. This construction is novel and embodies a number of advantages that will be obvious. The regular 30-horsepower Model H air-cooled touring car is continued practically the same and will be pushed with as much energy as ever, the Knox company believing in doing all it can in both lines.

Locomobile.—Steady-going conservatism of the type that is slow to forsake a good thing for something uncertain, but that is always quick to appreciate and take advantage of real improvement, has always marked the design of the Locomobile, so that when its makers, the Locomobile Company of America, Bridgeport, Conn., announce that they have made "improvements" in a new model, the word is meant in its full significance and does not imply that another brand of ignition cable has been adopted, or something equally trivial, but that genuine advances have been made. Chief among those to be found in the 1908 offering are the adoption of a four-speed selective type of change-speed gear for the Type E, 20-horsepower car. This type is also listed with a special form of removable tonneau interchangeable with a rear deck, no tools being required to make the change. A new feature of motor construction is the use of a large bronze plate carrying the water-circulating connection and covering an opening in the top of the jacket, besides which there are other changes of merit.

Lozier.—The three Lozier models comprising the 1908 line of the Lozier Motor Company, New York, will constitute this firm's exhibit. The new Type H, shaft-driven, ball bearing Lozier of 45 horsepower is represented by a stripped chassis and a seven-passenger touring car, and as it is not only the latest addition to the Lozier line, but likewise one which represents an advanced form of design and construction, it will naturally come in for the major share of attention at this exhibit. Although in this respect it must share the honors with the new 50-horsepower, six-cylinder, shaft-driven Lozier, this also forms an entirely new addition to Lozier line, so that the latter now offers quite a range of models, beginning with the 40-horsepower chain-driven type, which is practically the same design and construction as last year, and ending with the six-cylinder model just mentioned. Nickel-steel and chrome-nickel alloy steels are extensively used in the construction of the entire Lozier product for axles, frames, shafts, gears, and the like, while annular ball bearings are used wherever possible.

Matheson.—But one type of chassis comprises the line of the Matheson Motor Car Company, Wilkes-Barre, Pa., which is marketed through the Palmer & Singer Manufacturing Company, New York. This is equipped with a 45-50-horsepower motor of distinctive type, embodying many exclusive features, such as the single superimposed camshaft, oppositely disposed valves in the head, the design of the valve-operating mechanism, low-tension ignition, using Bosch magneto, and others which have characterized it since its inception, improvement in the meantime having been centered upon a refinement of the design rather than radical change. It is shown as a three-passenger runabout, and a seven-passenger touring car, limousine, or landaulet. Transmission is by multiple-disc clutch, with a selective type of change-speed gear and double side-chain final drive, the wheelbase being 128 inches in every case and the weights 3,200 pounds for the runabout, 3,400 for the touring type, and 3,600 for the inclosed types.

Northern.—Adherence to ideals adopted long before the trend of motor design and construction had settled down to the well-defined standards which now characterize them has always characterized the product of the Northern Motor Car Company, of Detroit and Port Huron, Mich., and the fact that the designers have not had to depart from their early conceptions as the result of this settling process speaks for itself. For 1908 the two-cylinder shaft-driven car with the motor placed transversely forward and at an angle to align the crankshaft with the cardan shaft, and which was one of the first of its kind, is listed in three types. It is known as Model C and is rated at 24 horsepower, being shown as a three-seated roadster, a five-passenger tonneau car, and as a seven-passenger limousine. It is equipped with the metal to metal clutch and planetary change-speed gear that have always distinguished it. The other member of the line is the Model L, 40-horsepower, four-cylinder car, which is shown in both runabout and touring types.

Oldsmobile.—A car of this make forms one of the numerous coterie of six-cylinder models to be unveiled at the show, and its specifications are accordingly of more than passing interest. It is known as Model Z and is a 60-horsepower, seven-passenger car, although under the new A. L. A. M. formula its rating is but 48 horsepower, the cylinder dimensions being 4 1-2-inch bore by 4 3-4-inch stroke. The cylinders are cast in pairs and are water-cooled, the radiator being of the vertical tubular fin type—in fact, its distinguishing characteristics are those that have become familiar on the four-cylinder model, except that various modifications and improvements have been made, such as the equipment of a dual system of ignition, using a Bosch high-tension magneto on the running side. The 1908 touring car is known as Model M, and its wheelbase is 112 1-2 inches as compared with 130 inches on the six-cylinder type. Both are fitted with an internal cone clutch with cork inserts, three-speed selective gear and shaft-drive, and semi-elliptic suspension.

Packard.—The forerunner of all the "Thirties" shown by the Packard Motor Car Company, Detroit, Mich., is distinctively Packard in every line of its make-up, and those who are familiar with American cars will realize the significance of the expression. The groundwork of the design is essentially the same as it has been ever since the builders have been devoting their attention to a four-cylinder car. From that time on, the entire process has been one of development, and in the latter so many distinguishing features have been evolved that a Packard can almost be identified in the dark. The standard motor, with its special type of water-jacketed carbureter and hydraulic governor, the expanding band clutch, and the progressive type of sliding gear mounted on the rear axle under the same housing as the bevel-drive and differential are all familiar features which have been constantly improved in detail and incorporated in each successive Packard. Simply to say that it's a Packard suffices to describe it.

Peerless.—As compared with previous models the Peerless cars for 1908 are characterized by few changes, the principal improvements consisting of an increased wheelbase, seven-passenger body, pacing of front axle farther forward, the adoption of 36-inch wheels, flat spring suspension, and a duplicate system of ignition employing a high-tension magneto on the running side, so that, to quote the makers, the Peerless Motor Car Company, Cleveland, O.: "The Peerless cars for the season of 1908 are higher-powered, larger, roomier, and more comfortable in riding qualities." Three standard types will be made, respectively known as Model 15, Model 18, and Model 20—the last named being a six-cylinder type that will not make its appearance on the market until after the first of the year. The first-named is a 45-horsepower, seven-passenger car with a 5 1-4 by 5 3-4 horsepower

motor, the cylinders being cast in pairs as formerly. The wheelbase is 119 inches and the car is listed either as a touring or roadster type. The mainstay of the line, however, will be the Model 18, which is a 30-horsepower car with a 4 7-8 by 5 1-2 inch motor, other features conforming to standard Peerless practise.

Pierce-Arrow.—Four models comprise the 1908 line of the Pierce factory, and the George N. Pierce Company, Buffalo, N. Y., state in their preliminary announcement that special alloy steels have been made a feature of their entire output, being used extensively wherever desirable. The cars listed are a 30-horsepower, 4-cylinder model, with a 4 1-4 by 4 3-4-inch motor; a 40-horsepower, 4-cylinder model with a 5 by 5 1-2-inch motor, and two 6-cylinder cars rated at 40 and 60-horsepower respectively, the engine dimensions of which are the same as those of the two 4-cylinder types just given. In all these models the sub-frame has been dispensed with, the main frame being constructed of chrome-nickel pressed steel of channel section, with four pressed steel transverse members, the forward one of which forms the radiator support. The power plant is directly supported on two I-beam cross girders in place of casting extension arms on the aluminum crankcase, the material of these extra cross pieces having a tensile strength of 65,000 pounds to the square inch.

Pope-Hartford.—As the center piece of the exhibit made by the Pope Manufacturing Company, Hartford, Conn., there will be a Pope-Hartford car with complete equipment, giving an idea of the usual accessories employed on a car of its grade, such as a speedometer, odometer, clock, searchlight, tire irons, wind shield, top, magneto, and the like. This is the new Model M Pope-Hartford touring car for 1908, which, with a few detailed exceptions, follows the lines of this year's Pope-Hartford, that proved itself a success in no uncertain manner. There is a Pope-Hartford of the same model to be included in the show with the regular selling equipment, other models staged being a runabout and a limousine, the former shown with a double rumble seat. The Pope-Tribune line will be shown in connection with the Pope-Hartford, a 20-horsepower touring car and 20-horsepower runabout on the same chassis being shown. The runabout is to be shown with complete equipment, including top.

Pope-Toledo.—A 50-horsepower touring car, officially known as Type XVII, and a touring runabout on the same chassis constitute the Pope-Toledo line for 1908, and in bringing these out for the coming season the Pope Motor Car Company, Toledo, O., has continued the special design of motor and chassis which was brought out last year. The power plant is of the overhead valve type, but differs considerably from others of this class in that the advantages of oppositely disposed valves have all been retained without the necessity of duplicating the camshafts. Large walking beams are employed, actuated at one end by a pushrod from the single camshaft. The D. W. F. annular ball bearings are largely used in the motor. The radiator is the familiar Pope "planatic" type of their own make. A multiple-disk clutch and a four-speed selective type of change-speed gear, both in the same housing, constitute the main essentials of the transmission, final drive being by means of double side chains. Both wheel and transmission bearings are all of the D. W. F. annular type. The tire equipment is 36 by 4 front and 36 by 4 1-2 inches rear.

Pope-Waverley.—Balance, trimness and proportion are the distinguishing features of the Model 71 Pope-Waverley electric runabout, which the designers of the Pope Motor Car Company, Indianapolis, Ind., have changed considerably since last year. The old style box patent body has been done away with, and the battery distribution with its housing has been so effected that the forward and rear projections are well proportioned and give the car an attractive appearance of trimly balanced compactness which is best described as "an air of jauntiness," if such an expression may be applied to something purely mechanical. A closely folding leather buggy type completes the car's external fitting. A victoria-phaeton with coupé top is another new Pope-Waverley model which was brought out for the first time last year and has been considerably improved since where the matter of body lines are concerned, numerous small conveniences having been added so that this model leaves nothing to be desired.

Royal Tourist.—Numerous improvements mark the 1908 line of the Royal Tourist, made by the Royal Motor Car Company, Cleveland, O., in addition to which two new cars have been included, one of them being a four-cylinder, 60-horsepower type, and the other a six-cylinder car of the same power. There have been a few minor changes in the motor, but, in the main, the power plant is of identically the same type as has always formed a distinguishing feature of the Royal for a number of years past. Where the chassis is concerned, however, the suspension has been altered to conform to the three-point type with transverse spring in the rear, or half-platform. Wheel sizes have also been increased from 34 to 36 inches. The showing will consist of a polished chassis, standard seven-passenger touring car and a fully equipped limousine.

Selden.—The new Selden cars, which are the product of the Selden Motor Vehicle Company, Rochester, N. Y., make their début at the present Garden show, and, in view of the name they bear, their specifications will be a matter of unusual interest to the autoist. Those who have confidently anticipated anything of a revolutionary or radically different nature from that recognized by standard practise will be disappointed, as the design of the car is lacking in either. It is shown in two distinctive models, the smaller of which is rated at 25-28-horsepower, and will be known as the Selden "25." It is equipped with a four-cylinder, water-cooled motor having high-tension ignition, cone clutch, and three-speed selective type of change-speed gear and shaft-drive. On a 109-inch wheelbase it tips the scales at 1,850 pounds as a touring car or runabout, and at 2,000 pounds as either a limousine or landaulet. The Selden "45" is the larger car, and is rated at 45-60 horsepower. With the exception of dual ignition, using a high-tension Bosch magneto, and a four-speed, selective gear set, the design is practically the same throughout, closely conforming to highest standard practise.

Stearns.—There will be a Stearns "30" and a Stearns "45" for 1908, or rather "there are," for both these models have been completed some time since by F. B. Stearns & Company, Cleveland, O., and will be staged at the Garden next Saturday. Though nominally of these low powers, even under the new A. L. A. M. rating, which experience has shown to be unusually conservative, they are credited with 46.22 and 69.3 horsepower, so that under old methods their rating would have been nearer 60 and 90 horsepower. The former is a four-cylinder type, while the latter is the six-cylinder representative of the Stearns line for the coming season. In the main, the same standards of design and construction have been adhered to throughout in both, an internal-expanding type of clutch with selective change-speed gear and double side-chain drive being employed. High-tension ignition by magneto and accumulators is used in both cases. The wheelbase of the smaller car is 120 inches, and the larger 128 inches.

Stevens-Duryea.—As the builders of both four and six-cylinder cars in a number of types, the line of the Stevens-Duryea Company, Chicopee Falls, Mass., will be one of the most complete of its kind in the Garden. Both the "Light Six" or Model U, and the "Big Six," otherwise Model S, are still the most prominent representatives of Stevens-Duryea design and construction, while the popular small car of the four-cylinder type, known as Model R, has been retained, and a newcomer, also of the four-cylinder type and which has been christened as Model X, has been added. Touring and inclosed types are listed in five and seven-passenger bodies, the features of construction being those favored by the designers of this firm for some time past, *i. e.*, multiple disk clutch, sliding change-speed gear and shaft drive. A magneto is a feature of the new Model X, which

in other respects conforms to the same practise, but has a longer wheelbase than the other cars, measuring 124 inches, while even the "Big Six's" dimensions on the ground are only 122 inches, which is moderate for a car of its power and size.

Studebaker.—Two standard types of chassis will be built under the aegis of the Studebaker name, by the Studebaker Automobile Company, South Bend, Ind., for the coming season, and under the new formula adopted by the Licensed Association they have been given the somewhat peculiar horsepower ratings of 27.2 and 36.1 horsepower, quite in contrast to the previous loose designations that placed the output of a motor anywhere within five or ten horsepower of what the designer thought it was. The smaller car is known as Model H, either as a runabout or limousine, and as Model B, as a touring car, while the larger car is entitled Model A, and at present is only listed in the touring type, having a five-passenger body. The most noticeable difference between the two is the fact that the smaller is fitted with a progressive type of change-speed gear, while the latter is equipped with a selective type, all being shaft-driven. Low-tension ignition is one of the distinctive features. The complete Studebaker line of electrics is also shown.

Thomas Flyers.—The exhibit of the E. R. Thomas Motor Company, Buffalo, N. Y., will provide one of the chief attractions of the new season's models and it goes without saying that it will form a center of interest at the Garden. This is the new Thomas cab or town car. In every feature it bears the imprint of an overseas' design, and the fact that those same features represent marked advances of their kind lends them additional interest. Following the initiative set by several French makers, the four-cylinder engine has been made in a single simple casting, this tending greatly to make it much more compact, this being one of the essentials most desired in the power plant of a car intended solely for city use. To the same end the forward part of the frame has been narrowed to a much greater extent than usual in order to have an extra amount of space between it and the front wheels, thus obtaining a particularly small turning radius so that these cars will be able to get around in narrow streets without reversing. Another of their features that will attract unusual interest is the elimination of the pump, thermo-siphon having been adopted.

Thomas Detroit.—In line with the policy adopted by the Detroit factory of the E. R. Thomas Motor Company, of Buffalo, N. Y., at the outset, this end of the Thomas interests will devote its entire attention to the production of a single chassis for 1908 as it did during the present season. Its rating remains the same as that which gave it a distinctive title when first brought out, *i.e.*, 40 horsepower, though its appellation has been altered to that of Thomas Detroit, in order to better distinguish it from the product of the Buffalo works. The same type of power-plant, in fact practically the same lines throughout, characterize the new model as did its predecessor. The cylinders are cast in pairs with liberal water-jackets, the valves, spark plugs, carbureter, circulating pump and magneto all being placed on one side. The crankshaft bearings are of liberal dimensions and are of special alloy. All the timing gears, magneto and the oil and water pump-driving gears are placed in a special oil-tight housing. Ignition is by high-tension magneto and dry cells, the latter acting solely as a reserve. It is shown in both touring and runabout types.

Waltham.—One of the striking features of the Waltham-Orient line for 1908 will be a 14-16-horsepower, two-cylinder chassis, which will be shown by the makers, the Waltham Manufacturing Company, Waltham, Mass., in a number of styles. It will be equipped as a delivery wagon, as a runabout, and also in the latter type with detachable tonneau and rear deck, making it convertible from one to the other. Some of the remaining members of the line are the 8-horsepower, air-cooled runabout, which has undergone considerable improvement and change in appearance since the former model, and the four-cylinder 20-horsepower, air-cooled chassis, which will be shown in both touring and runabout types. One of the chief features of the Waltham chassis, particularly the water-cooled type referred to above, is the employment of a unit type of power plant and transmission which can be detached from the car in about thirty minutes; it is bolted to a subframe and everything can be removed intact. There are likewise a number of detailed improvements on the various chassis, which in some instances are apparent at a glance, while in others they do not stand out prominently, though a great deal of attention has been paid to detail.

Walter.—In addition to the standard seven-passenger touring car of 40 horsepower that it has built for several years past, the Walter Automobile Company, Trenton, N. J., has added a 30-horsepower model, on which the motor is of somewhat different design. In place of the overhead rocker-arm valve mechanism which has distinguished former models, this is made with a single camshaft operating the valves by the direct thrust method, all being placed on the same side in an outboard valve chamber on each pair of cylinders. This new car will be shown in the shape of a landaulet, while two 40-horsepower types will be shown with touring and runabout bodies, and will be equipped with the same style of motor as the landaulet. The exhibit will be completed by a 40-horsepower limousine which will have the former style of power plant. Considerable attention has been paid to brake design, and the makers claim to have effected great improvements in this essential.

White.—In accordance with its policy in former years, The White Company, Cleveland, O., which is again showing with the licensed cars, will display one of the most complete lines of cars to be seen in the Garden. Both the new models, K and L, will be staged with a number of different types of bodies. The Model K is a 30-horsepower machine patterned closely after the lines of the Model G of the present season; it is shown as a touring car, limousine, landaulet, and runabout. The smaller car, or Model L, is the 20-horsepower car for 1908, and it is shown in touring, limousine, and landaulet types. The most striking change is to be found in the larger car, which is fitted with a straight-line body, this being the first of its kind ever presented by The White Company. The wheelbase of this car has been increased to 122 inches, while that of the smaller car remains at 116 inches, and the runabout's dimensions is 105 inches. The motor of the smaller car is now mounted on an aluminum pan, inclosing it entirely from beneath and thus eliminating the subframe. Numerous other detailed mechanical improvements have been made in the power plants of both cars, and, though small in themselves, in the aggregate they serve to give some idea of the painstaking attention to detail continually being devoted to the improvement of the White by its designers.

Winton.—"Six-Teen-Six," which is a title expressive of the fact that this is the sixteenth consecutive model turned out by the Winton factory, and is of the six-cylinder type, represents the sole bearer of the Winton standard that the Winton Motor Carriage Company, Cleveland, O., will devote its entire efforts to during the coming year. Though of the six-cylinder type, no attempt has been made to build an extremely high-powered car, but the conservatism that has always marked the Winton line is adhered to, the rating being 40 horsepower. The car embodies numerous features of merit, probably the first of which to strike even the inexperienced eye being the valve mechanism covers and the special self-starting device. The latter works on the compressed-air principle, and, in view of the number of parts necessarily entailed in the successful design of such a device, this has been made exceedingly simple and compact. The capacity of the tank is sufficient to turn the motor over a number of turns, compression being taken only on the firing stroke of the first cylinder. This is accomplished by the use of a check-valve which does not yield to the force of the compression stroke as the pressure of the latter is not sufficient to move it. The distributing valve is simple and efficient and the chief advantage of the starter as a whole is its simplicity and ease of operation, it not being necessary to go through a number of stunts, beside which the process of using the crank would be a simple thing.

Germany Wins the Aeronautical Cup

AT ST. LOUIS JUST BEFORE THE SKY VESSELS LEFT THEIR MOORINGS—ARRANGEMENTS WERE THOROUGH AND WELL CARRIED OUT.

FROM France the James Gordon Bennett aeronautical cup came to America; from America it will go to Germany, unless, as is exceedingly improbable, it should be found on final measurement that France has a longer mileage than her rival from across the Rhine. Nine balloons, representing America, Germany, France, and England, lined up at St. Louis, Monday, October 21, for the start in the second race for the Bennett trophy, and the first international balloon race ever held in this country.

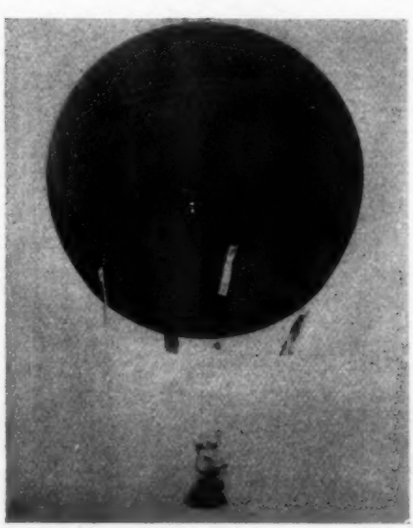
Promptly at 4 o'clock P.M., in the presence of a crowd which the conservative estimated at 300,000 and which the enthusiastic carried forward to half a million, Oscar Erbsloeh, in the *Pommern*, one of last year's starters from Paris, ascended lazily into the air to the tune of "Die Wacht am Rhein" and the cheers from thousands of throats. Major Henry B. Hersey, in the *United States*, the only American-built balloon in the race, went into the unknown five minutes later. Major Hersey was Lieutenant Lahm's companion last year, when the young American won the cup in a flight of 415 miles from Paris to the north of England. An attack of typhoid fever when on military service in France had prevented Lieutenant Lahm from competing in or even witnessing the start of the second aeronautical contest.

WINNER ERBSLOEH.

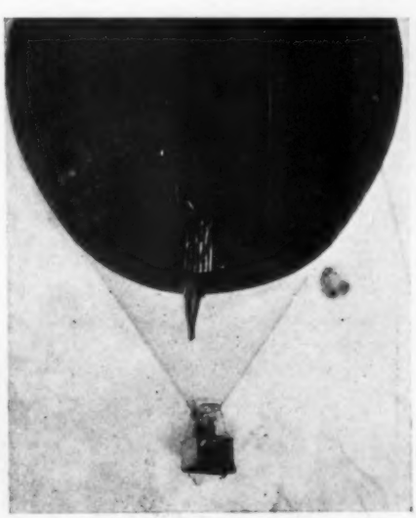
Alfred Leblanc doffed his hat and swung it around excitedly as the "Marseillaise" pealed forth in honor of himself and the *Isle de France*. On the tick of the clock the *Dusseldorf*, with Herr Abercron in charge, joined the sky brigade, followed by *Lotus II*, the solitary Britisher, manned by Griffith Brewer and Claude Brabazon. Captain C. De F. Chandler and J. C. McCoy, in the big balloon *America*, received a tremendous ovation, especially from the officers and men from the barracks and the Signal Corps. René Gasnier and Charles Levée in the *Anjou*, from Paris; Paul Meckel in the little *Abercron*, from Germany; then the *St. Louis*, piloted by Alan R. Hawley and Augustus Pope, closed the march. Forty minutes had been occupied in starting the nine big balloons, each one rising into the air at its appointed time without any delay or the slightest mishap.

Inflation of the nine gas bags had begun at 8 o'clock, with such a strong pressure and such an excellent quality of gas that before 11 o'clock the supply had to be shut down and was not turned on again until 2 o'clock. At each balloon twenty-one soldiers in charge of a United States Signal Corps man, and a number of expert workmen, watched the inflation, arranged the netting, attached the sand bags, climbed into the netting to fix national flags and streamers, and gave all necessary attention for the start. At the outer edge of the enclosure troops handled the crowd in an excellent manner, the whole proceedings being a credit to the Aero Club of America and a surprise to the foreigners, few of whom had thought such a high standard of efficiency possible at America's first international aeronautical race.

Oscar Erbsloeh, who came down near Asbury Park, N. J., so near to the sea that further flight was impossible, briefly tells the story of how he won the second contest for the internation aeronautical cup. "We started promptly at 4 o'clock, rose to a height of 5,000 feet and there found a current carrying us eastward. All night we remained at this altitude, sailing east, and passing over a great many rivers and cities. On Tuesday morning we rose to a height of 6,500 feet and felt very comfortable. Owing to our



"POMMERN" OF GERMANY, THE CUP WINNER



"UNITED STATES," THE CUP WINNER OF 1906

PRES. C. F. BISHOP GIVING INSTRUCTIONS. STARTER C J. GLIDDEN AND COLGATE HOYT. PLACING THE FLAG ON THE "UNITED STATES."

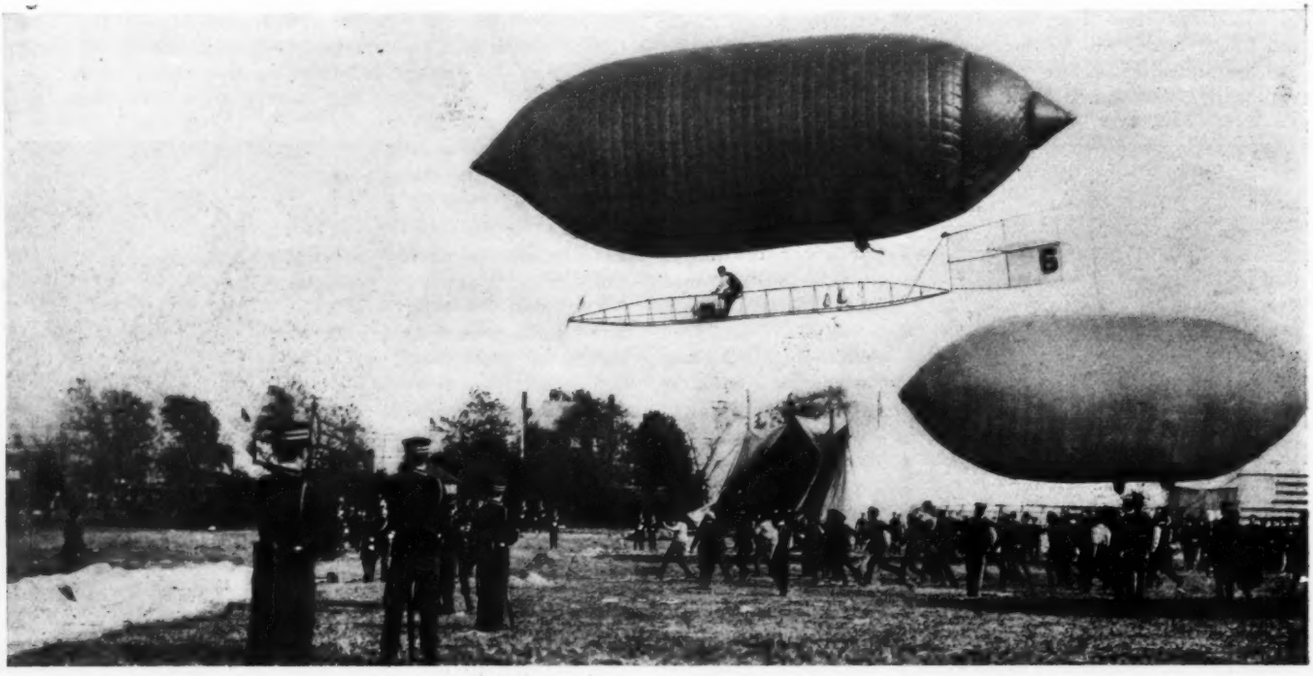
good charts we nearly always knew where we were. Only once had we to come near earth to ask for information, and that was at Fort Washington, in Ohio. We continued our journey until early on Thursday morning the city of Philadelphia appeared in sight. Wishing to get a current which would carry us into Massachusetts, we lowered to 300 feet, then rose to 10,000 feet, but failed to find any other current but that which took us east, so resolved to descend at the mouth of the Shark river. We decided to go as close to the ocean as possible and finally made a successful descent in an open lot at Asbury Park. We had covered 876 miles."

Alfred Leblanc and E. W. Mix, the former a Parisian technical expert, and the latter a native of Ohio, came second, only six miles behind the German team, by ascending at Herbertsville, N. J. The *Isle de France* crew declare that had their guide rope not caught in a tree at Orange county, N. J., they would have gone straight on and descended at the water's edge. Anxious to ascertain exactly their position in the race, they have asked that the flight be measured. This will be done, awards being held until after this official announcement, expected in thirty days.

Von Abercron, in the *Dusseldorf*, secured third prize by a descent at Dover, Del., approximately 780 miles. The *America* and the *St. Louis* took fourth and fifth places, with 720 and 710 miles, both descending in Maryland. Meckel's *Abercron* and René Gasnier's *Anjou* both drifted down to Virginia, the German having 700 miles and the Frenchman 680. Major Hersey's *United States* struck out an independent course and after a journey of 650 miles came to earth at Caledonia, Ontario. *Lotus II*, the English representative, found a landing at Sabina, O., after completing a journey of 375 miles.

Beachy Wins the Dirigible Prize.

Quite as much interest was displayed in the three-mile race for dirigible balloons on the last day of the St. Louis aeronautical carnival as had been manifested in the start for the Bennett cup. There were four contestants and three heats, but only in the last was there any sharp contest. In the final heat Lincoln Beachy, of Toledo, O., drove his dirigible balloon *Beachy* round the three-mile course, part of the distance against a head wind, in 4:40, descending on the very spot from which he had started. Jack Dallas, of Texas, had a record of 6:10; Captain Thomas S. Baldwin, of New York, had the next best time in the *Arrow*, in 7:05.



LINCOLN BEACHY, OF TOLEDO, O., AND HIS DIRIGIBLE BALLOON "BEACHY," WINNER OF THE EVENT FOR STEERABLE AIRSHIPS.

BATTLE OF THE CYLINDERS: SIX VERSUS FOUR

By F. B. STEARNS.

WHILE a few of the automobile manufacturers of the country are to-day building the six-cylinder car, there is grave doubt in the minds of the leading designers and engineers as to whether this new demand for cars of enormous power is not but a passing craze, and many of the highest grade manufacturers will have nothing to do with sixes. At this time many manufacturers who are building six cylinders are doing so against their will, not because they favor such a type, but because they have been forced into it. Take them large and small, here, there, and everywhere, and without exception the leaders of the American automobile industry are continuing their four-cylinder cars, building as many as usual, and constructing but a small number of sixes because they have been forced into it.

The claim of some manufacturers, who are strongly in favor of six cylinders, is the fact that their present six-cylinder cars run smoother and easier than their fours—in technical terms, the torque is much more continuous. "In our four-cylinder cars," say these manufacturers, "we were utterly unable to overcome this difficulty, but the addition of two more cylinders obviates this entirely."

This is very plausible on the face of the matter, but how different are the real facts. The best four-cylinder cars made to-day, and by the word "best" I mean the very few who have no superiors, run as smoothly as any six-cylinder cars, with the motor running at anything over 200 revolutions. Above that it is utterly impossible to notice any difference.

While the Stearns Company have had wonderful success with their six-cylinder car, as is evinced by its records in races, hill-climbs, etc., at the same time we are firm believers in the four-cylinder type of car, for many years of experimenting have taught us that the four-cylinder motor, conscientiously made by skilled workmen under expert supervision, is good enough for any car. This does not apply to those manufacturers who have had more or less trouble with their fours, and at last turn thankfully to the sixes as a way out of their difficulty, but to the best manufacturers in the business.

The basic argument in favor of the six cylinder is, as noted above, the continuous torque—but let us carefully dissect this argument for a moment. A six-cylinder motor geared, say 2 to 1, delivers 12 impulses to the rear axle for every revolution of the wheels. Acting on precisely the same principle, a single cylinder motor geared 12 to 1 will also deliver 12 impulses to the axle for every revolution, and the forward movement of the car is just as smooth as though six cylinders were employed.

It has been claimed that six cylinders of given size will develop 50 per cent. more power than four cylinders of equal dimensions, all other things being equal. But is this really the case? I think not.

Years of experimenting have shown us that with all other thing equal the addition of two more cylinders does *not* produce 50 per cent. more power. In fact, a much smaller percentage than that was all that could be noticed after over a year of expert testing. While the same result may not have been achieved by a few other makers, years of conscientious study and application to this problem have conclusively proven the above results, due almost entirely to the high state of efficiency at which our four-cylinder motors have arrived.

The principal difficulties with the six cylinder, which no one can deny, are that it requires 50 per cent. more mechanical parts, 50 per cent. more ignition apparatus, 50 per cent. more gas apparatus, has 50 per cent. more valves to grind, has 50 per cent. more weight, and requires 50 per cent. more radiating surface than a four-cylinder motor of equal power, and consequently requires 50 per cent. more care, and last, but not least, 50 per cent. more repair bills.

The statement is continually made that gasoline engines as they now have been perfected cause practically no trouble, and that by putting in 50 per cent. more parts it means no more trouble because there is no trouble at all. This may be true when the car is new, and all the six-cylinder cars in this country are in their first and second years, but what about them when the time *does* come to have the car overhauled? There is no question but that the repair man's bills will be 50 per cent. greater because there are 50 per cent. more parts to look after and readjust and refit.

Another difficulty about the six cylinder is the enormous length of hood that the motor occupies. The result is that in order to get a wheelbase under 135 inches the constructor must place a large portion of the motor directly over the front axle, which necessarily makes hard steering, is hard on tires and springs, and is extremely hard on the delicate adjustments in the motor. The aim of all designers is to get the passengers and mechanism between the axles, and this has become standard motor car construction in the best cars the world over. Except with an excessively long wheelbase this is impossible with the six cylinder, and the addition of a long wheelbase makes the car so long that it is impossible to handle it readily in traffic or even to turn around in the wide streets.

Because the principal cost of a motor car is in the skill required to machine, assemble, and adjust the delicate parts of the motor mechanism, the cost of a six-cylinder car must necessarily be greater in order to produce an equal grade of workmanship with the four-cylinder car. The carburetion difficulties increase because there are two cylinders taking in gas at the same time, and great care must be used to distribute this evenly to all cylinders. Think of an ordinary chauffeur attempting to grind in 12 valves and to time a double system of ignition, or to adjust the valve timing! This means that when the six-cylinder motor does get into trouble, which unfortunately the best motors of any kind are apt to do, it will require more skilled experts to properly adjust a six-cylinder motor than a four.

Throughout the world it is almost invariably the case that racing machines are four cylinders. We ourselves build six-cylinder cars for one purpose, and that is to give the speed and power that a few drivers demand. In other words, if an automobile owner is not satisfied with 60-70 brake horsepower, which our four-cylinder motor gives, and wants something between 90 and 100 horsepower for speed contests, special hill-climbs, etc., the easiest way to give him this is to build a six-cylinder motor. This is absolutely the only use we can see for a six-cylinder motor—that is, extreme power—and for this extreme high power the six-cylinder motor is practically suited.

It is probably not out of place to state that we claim to obtain in our four-cylinder motor the gradual and even application of torque that is talked so much about in the six. This we accomplish by means of a superior carbureter, which we have developed after ten years of constant experimenting to get a perfect gas-making apparatus.

We can best illustrate this by comparing our perfected double carbureter—which turns raw gasoline with a mixture of air into a constant gas—to a steam boiler and steam engine. The supply of gas is always constant, no matter what speed, and by opening the throttle the amount of gas can be so regulated as to get a range of power from one to between 60 and 70 brake horsepower by a simple manipulation of the throttle. The result obtained is equivalent to a constant supply of steam being utilized in a four-cylinder steam engine.

Why, then, is it necessary to use six cylinders if the torque in a four is practically constant, the supply of gas being even and steady at all speeds?

(Continued from page 616.)

MOTORCYCLES: TWO-WHEELERS ARE GROWING IN FAVOR

American Motor Co., Brockton, Mass.....Basement 215B
Armac Motor Co.....Basement 249
Aurora Automatic Machine Co., Aurora, Ill.....Concert Hall 168
Consolidated Manufacturing Co., Toledo, O.....Basement 250
Curtiss Mfg. Co., G. H., Hammondsport, N. Y.....Basement 240
Excelsior Motor & Mfg. Co.....Basement 248
Hendee Mfg. Co., Springfield, Mass.....Basement 237
Light Mfg. & Foundry Co., Pottstown, Pa.....Basement 241
Merkel Motor Co., Milwaukee, Wis.....Basement 251
N. S. U. Cycle & Motor Co., 148 East 49th street, New York.....Basement 247
Ovington Motor Co., 2208 Broadway, New York.....Basement 245
Pope Mfg. Co., Hartford, Conn.....Basement 243
Reading Standard Co., Reading, Pa.....Basement 244
Reliance Motorcycle Co.....Basement 239
Thomas Auto-Bi Co., Buffalo, N. Y.....Basement 242
Shirley, Amos, 935 Eighth avenue, New York.....Basement 216

IGNITION: EMBRACES MANY CONCERNS

PRIMARY AND SECONDARY BATTERIES.

American Electrical Novelty Mfg. Co., 308 Hudson street, New York.....Balcony 130
Dayton Electrical Mfg. Co., Dayton, O.....Mezzanine Plat. 60
Eastern Carbon Works, Jersey City, N. J.....Balcony 118
Electric Storage Battery Co., Philadelphia, Pa.....Concert Hall 174
Geiszler Bros., 316 West 42d street, New York....3d Tier Boxes 280
Gould Storage Battery Co., 341 Fifth Ave., New York..Basement 218
Kitsee Storage Battery Co., Wilkes-Barre, Pa....3d Tier Boxes 275
National Battery Co., 1606 Broadway, New York.....Balcony 123
National Carbon Co., Cleveland, O.....Mezzanine Plat. 67
Stackpole Battery Co., St. Mary's, Pa.....Concert Hall 173
Vesta Accumulator Co., 1336 Michigan avenue, Chicago, Ill.....Balcony 139
Witherbee Igniter Co., 519 West 33d street, New York..Balcony 115

HIGH AND LOW-TENSION MAGNETOS.

Bosch, Robert, Inc., 160 West 56th street, New York..Basement 212
Bretz Co., J. S., Times Building, New York.....Balcony 183
Champion Co., Albert, Boston, Mass.....Basement 223
Holley Bros. Co., Detroit, Mich.....Balcony 146
Lavalette & Co., 112 West 42d street, New York..Basement 220-221
Pittsfield Spark Coil Co., Pittsfield, Mass.....Mezzanine Plat. 103
Remy Electric Co., Anderson, Ind.....Mezzanine Plat. 60
Splitdorf, C. F., 1669 Broadway, New York.....Mezzanine Plat. 57

DYNAMOS.

Dayton Electrical Mfg. Co., Dayton, O.....Mezzanine Plat. 60
Motsinger Device Mfg. Co., Pendleton, Ind.....Mezzanine Plat. 97

TIMERS AND COMMUTATING DEVICES.

Atwater-Kent Mfg. Works, Philadelphia, Pa....Mezzanine Plat. 65
Connecticut Telephone & Electric Co., Meriden, Conn.....Concert Hall 179
Hardy Co., R. E., 86 Watts street, New York.....Balcony 120
Heinze Electrical Co., Lowell, Mass.....Basement 268
Herz & Co., 187 Lafayette street, New York.....Balcony 143
Mosler Co., A. R., 163 West 29th street, New York.....Balcony 119
Uncas Specialty Co., Norwich, Conn.....Balcony 126

HIGH-TENSION IGNITION COILS.

Auto Coil Co., Jersey City, N. J.....Mezzanine Plat. 72
Connecticut Telephone & Electric Co., Meriden, Conn.....Concert Hall 179
Heinze Electrical Co., Lowell, Mass.....Basement 268
Pittsfield Spark Coil Co., Pittsfield, Mass.....Mezzanine Plat. 103
Splitdorf, C. F., 1669 Broadway, New York....Mezzanine Plat. 57

SPARK PLUGS AND OTHER IGNITION DEVICES.

Benford, E. M., New Rochelle, N. Y.....2d Tier Boxes 196
Delta Mfg. Co., Bloomfield, N. J.....2d Tier Boxes 202
Hardy Co., R. E., 86 Watts street, New York.....Balcony 120
Jeffery-Dewitt Co., 217 High street, Newark, N. J..2d Tier Boxes 205
McCord & Co., Chicago, Ill.....Balcony 144
Peerless Igniter Co., 947 Marcy avenue, Brooklyn, N. Y.....3d Tier Boxes 276
Witherbee Igniter Co., 519 West 33d street, New York..Balcony 115

COMING EVENTS AS SHOWN BY THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

Nov. 2-9.....—New York City, Madison Square Garden, Eighth Annual Automobile Show, Association of Licensed Automobile Manufacturers.
Nov. 9-16.....—Philadelphia, First Regt. Armory, Automobile Show, Philadelphia Automobile Trade Association.
Nov. 16-23.....—Baltimore, Third Annual Automobile Exhibition, Automobile Dealers' Association. B. R. Johnson, manager, Piper Building.
Nov. 30-Dec. 7..—Chicago, Coliseum and First Regt. Armory, Eighth Annual National Automobile Show, and First Annual Commercial Vehicle Show, National Association of Automobile Manufacturers.
Dec. ——.....—Detroit, Riverview Park Auditorium, Detroit Automobile Dealers' Association. (Exact date to be announced.)
Dec. 14-21.....—St. Louis, Mo., New Coliseum, Second Annual Auto Show, St. Louis Automobile Manufacturers' and Dealers' Association.
Dec. 28-Jan. 4..—New York City, Madison Square Garden, Importers' Salon. C. R. Mabley, manager.
Feb. 3-8, '08....—Buffalo, Convention Hall, First Annual Power Boat and Sportsmen's Show, auspices of Buffalo Launch Club. Dai H. Lewis, manager.
Feb. 10-15.....—Detroit, Light Guard Armory, Tri-State Automobile and Sporting Goods Association, Seventh Annual Show.
Feb. 20-Mar. 7..—New York City, Madison Square Garden, Fourteenth Annual Motor Boat and Sportsmen's Show.
Mar. 7-14.....—Boston, Mechanics' Building and Horticultural Hall, Boston Automobile Dealers' Association. Chester I Campbell, manager, 5 Park Square.
Mar. 9-14.....—Buffalo, Convention Hall, Sixth Annual Automobile Show, Automobile Club of Buffalo. Dai H. Lewis, manager.
Mar. 21-28.....—Toronto, Canada, St. Lawrence Arena, Automobile Show. R. M. Jaffray, manager.
Apr. 5-12.....—Montreal, Canada, Arena, Third Annual Automobile and Sportsman's Show. R. M. Jaffray, Mgr.

Races, Hill-Climbs, Etc.

Nov. 15-16.....—Newark, N. J., 24-hour Endurance Run, Automobile Club of New Jersey.

FOREIGN.

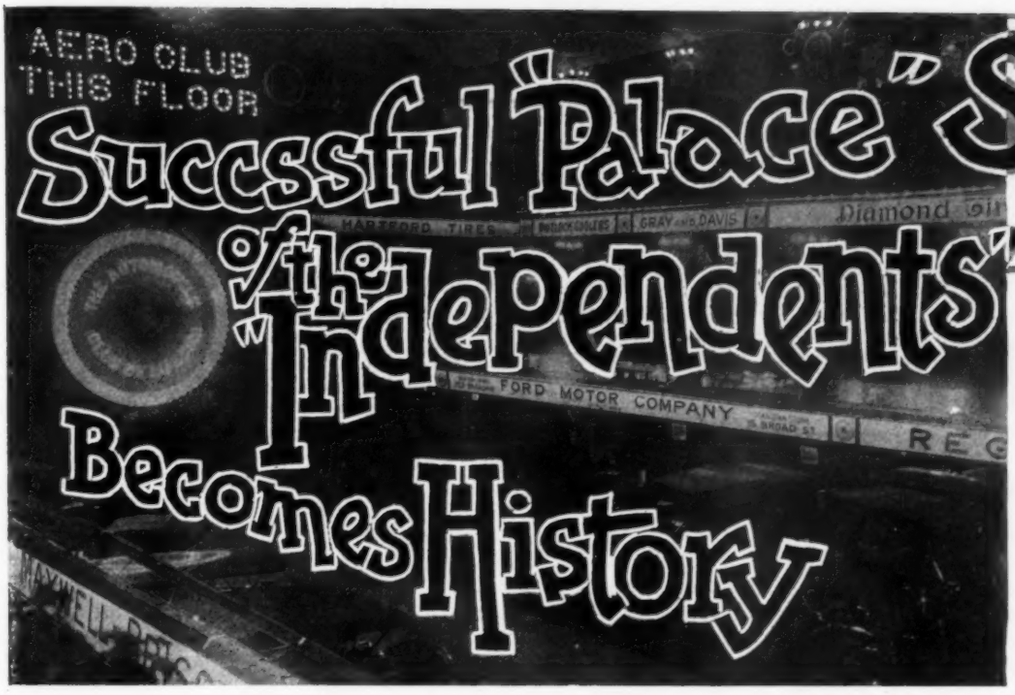
Shows.

Nov. 11-23.....—London, Olympia Motor Show.
Nov. 12-Dec. 1..—Paris, Exposition Decenniale de l'Automobile, Grand Palais, Esplanade des Invalides, Automobile Club of France.
Nov. 22-30.....—London, Agricultural Hall, Stanley Show.
Dec. 5-22.....—Berlin, Germany, Automobile Show.
Dec. 21-Jan 2..—Brussels, Show, Palace of the Cinquantenaire.
Jan.18-Feb.2,'08—Turin, Italy, Fifth International Automobile Exhibition, Palace of Fine Arts, Valentino Park, Automobile Club of Turin.
Mar. 21-28.....—London, Agricultural Hall, Cordingley's Show.

Races, Hill-Climbs, Etc.

Nov. 1-15.....—France, Voiturette Contest near Paris.
May 16, 1908....—Sicily, Targa Florio, Automobile Club of Italy.
June 20-July 5..—Grand Prix, Dieppe Circuit, Automobile Club of France. (Exact date to be announced.)
July 14, 1908...—Paris to London, Aerial Race.
August, 1908...—France, Coupe de la Presse, Automobile Club of France. (Exact date to be announced.)

Successful "Palace" Show of the "Independents" Becomes History



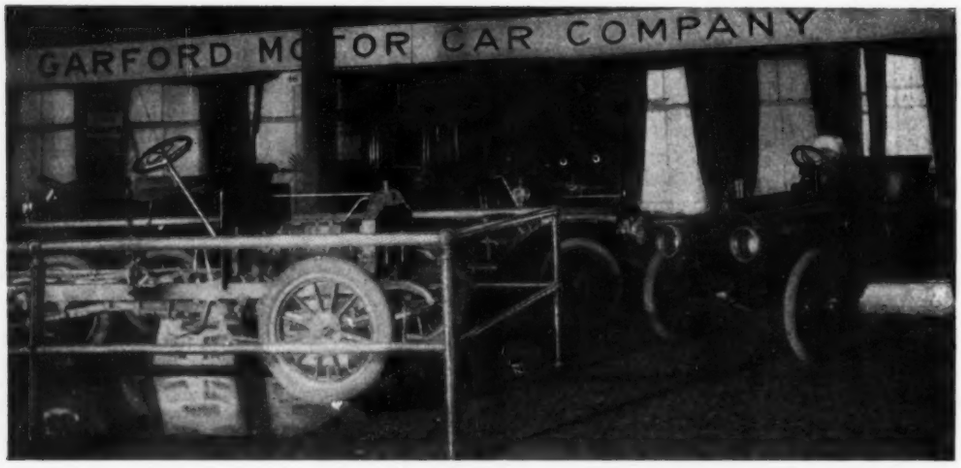
NIGHT SCENE IN GRAND CENTRAL PALACE, WHERE PHOTOGRAPHY WAS ACCOMPLISHED WITH DIFFICULTY.

THE A. C. A.-A. M. C. M. A. combination to-night closed its third successful show—an exhibition held too early, in the opinion of some, and even too late, according to the ideas of others. Unquestionably there is going to be more or less revision of the show problem, for, candidly speaking, it doesn't seem to fill quite the necessities of the industry as at present developed. But the Grand Central Palace show has been beneficial to the industry as a whole, and while the volume of business transacted did not exceed that of former years, for reasons which are apparent and varied, a balancing of expenditures and receipts will show a profit to the greater number of Grand Central Palace exhibitors. In some instances it meant little more than the introduction of a new name, which must become better known before its possessors realize appreciably upon their investments.

In the buying of automobiles, it should be kept in mind, the public approaches the proposition with more carefulness than was the case a year or more back, when anything that moved under its own power seemed to attract at least a limited number of buyers. But the buyer of to-day is inclined to use greater discrimination, and it has become a case of "show me," convincingly and even economically. Recognizing this condition of affairs, the experienced maker is prepared to meet the revised requirements. The hurrah business is being disregarded, for is doesn't sell cars any more.

Doubtless the most noticeable feature of the Palace show, to the seasoned rounder who has taken them all in ever since there has been such a thing as an automobile show, was the absence of this hurrah business and the quiet air of dignity that characterized the thing as a whole. There was entirely lacking that feverish bustle and haste that was long an ear-mark of the Garden show in its earlier years and which was transferred in all its virility to the first holding of a similar affair by the independent makers. It took the Garden exhibitors three or four years to wear off that air of extreme activity which, in the last analysis, was only a feverish pretense of doing a tremendous volume of business, and for the show as a whole to acquire an atmosphere of dignified reserve quite in keeping with the character of the product. It seems only fitting that the business of selling automobiles should be placed on a somewhat higher plane than that of developing a real estate boom section in which lots are disposed of on the installment plan, but the process was somewhat akin to this in the early days. Every maker in the show had "disposed of his entire product for the coming year"—long before he got there, in fact—and his presence was merely

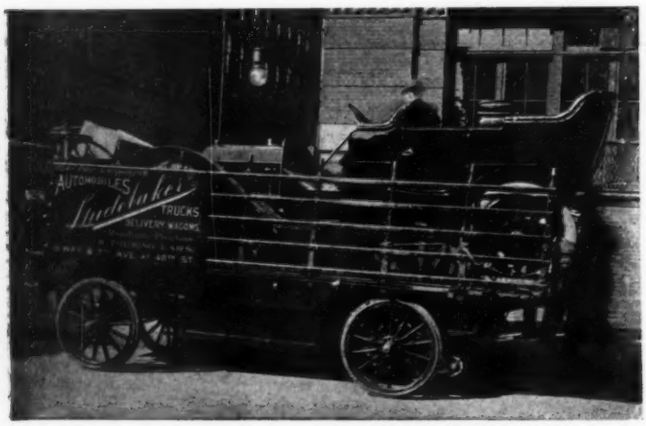
ANOTHER VIEW IN THE PALACE, WHICH COULD BE IMPROVED UPON FOR EXHIBITING PURPOSES.



STAND OF ONE OF THE NEWCOMERS TO THE LIST: THE GARFORD MOTOR CAR COMPANY.

due to a desire to see and be seen—to let his competitors know that he was still on top. But with an inconsistency that ill-accorded with his statement he was continuously chasing the itinerant sign-painter to placard his exhibit with the names of new buyers as fast as cars were sold.

Bearing this in mind, as well as the fact that the American Motor Car Manufacturers' Association, the members of which



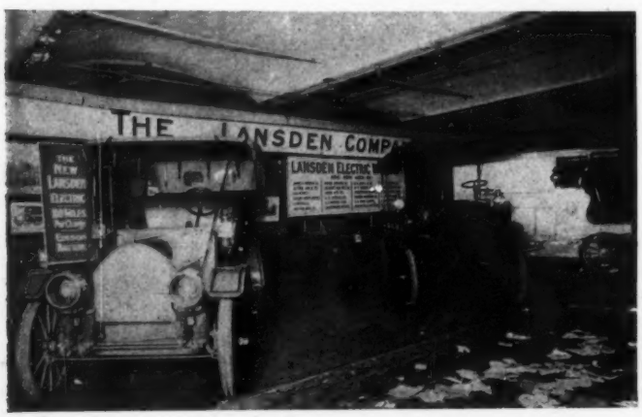
STURDY STUDEBAKER CONVEYS ITS LITTLE BROTHER TO THE SHOW.

form the virtual foundation of the show, have not had the advantages of co-operation for more than a few years, and the result as exemplified by the long lines of cars was something of which they may justly be proud. During the past week there was gathered in the Palace a very substantial percentage of the backbone of the American automobile industry as a whole, and anyone who is conversant with prevailing conditions to-day could hardly fail to recognize this. It has been evident all along that ultimately the medium and low-priced cars must naturally constitute the bulk of the annual output, whether here or abroad, and the American makers who are numbered among the members of the A. M. C. M. A., as well as not a few of those who have not become affiliated as yet with any of the organizations in the field, have not been slow to realize and take due advantage of that fact.

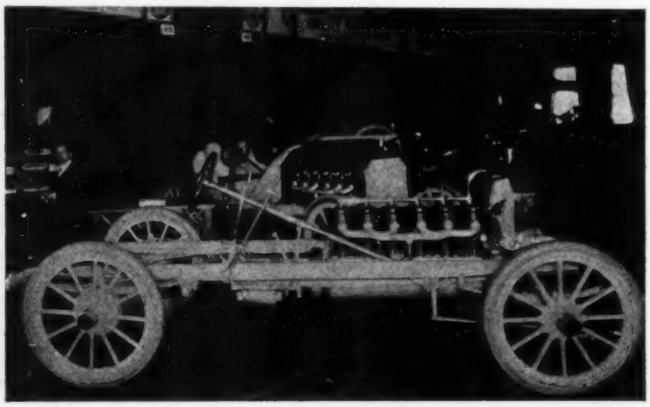
To be more explicit regarding the show itself, it is safe to say that it represented as successful an affair of the kind as either of the associations in question have ever been responsible for, and that is saying a great deal, as both last year's Palace show and the opening event of the kind in the Sixty-ninth Regiment armory were affairs that forcibly demonstrated what the independent makers were capable of in no uncertain manner.

Whether a mistake was made in setting the date of the show too far ahead, despite the evident demand for early shows, is something that cannot be answered at the moment, besides being a matter on which there is considerable difference of opinion. Involving as it does the question, "Do people now come to shows to actually place orders for cars?" it is difficult to say that a show held at any time near the closing of one season or the opening of another is premature. Those who uphold the view that the date was too early point to the fact that the attendance was not as great this year as last on the opening or the first three or four nights, to substantiate their opinions, but the peculiar conditions prevailing were largely accounted for by the fact that out-of-town autoists timed their visits in a great many instances so as to be in New York during the closing days of the Palace show and the opening of the Garden, so that there was considerable of an influx of new visitors as the show drew to an end. Besides this, there is another thing to be considered. Automobiles are so numerous on the streets nowadays that it is hardly necessary for the merely curious to attend a show.

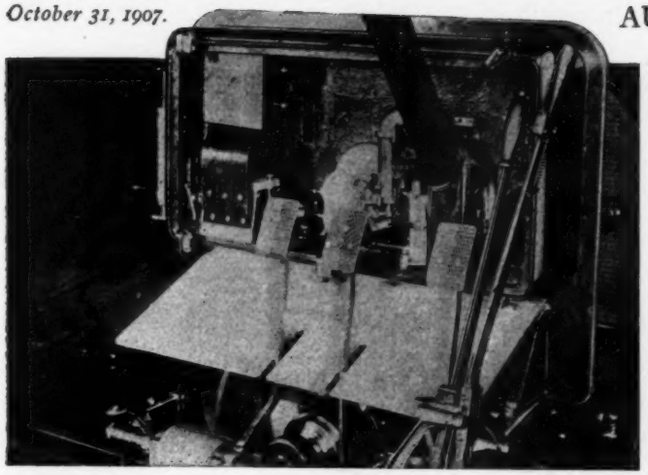
Briefly summed up, however, the New York shows may or may not be longer necessary for the placing of agencies; that's a question for the makers to decide, and they ought to be able to answer it without any vast amount of figuring, for facts should exist, and facts are stubborn things. New York shows, like the shows in all other cities, are certain to help the retailing of cars, and if the metropolitan exhibitions are held for this particular purpose there isn't any doubt whatever but that they are too far ahead in the calendar.



LANSDEN, WHICH EMPLOYS MUCH EXPLOITED EDISON BATTERY.



SIX-CYLINDER COLT RUNABOUT, ONE OF THE SHOW'S FEATURES.



UNIQUE DASH ARRANGEMENT OF THE NEW ELLSWORTH.

WHERE THE GREAT CHADWICK SIXES WERE ARRAYED.

SOME OF THE THINGS SEEN AT THE PALACE

By CHARLES B. HAYWARD.

TO the man with no eye for detail, be he technically inclined or otherwise, most four-cylinder and six-cylinder cars look alike, and as models of those types constitute the bulk of the cars shown, there is more or less sameness about the entire aggregation that leads the man in the street to the conclusion that all automobiles are alike. To a certain extent this must naturally be the case, but it does not require an unusually observant eye to note scores of points of difference that merit remark. For instance, such a very apparent exception to current practise in motor design as the placing of the flywheel at the forward end of the engine which characterizes the Maxwell product, is something that can hardly fail to draw the attention of the visitor with the least perception of detail, but as even such a very noticeable feature as this frequently escapes a great many of the would-be motor wise, it is hardly strange that finer points of design and construction should be overlooked entirely. This Maxwell characteristic has been perpetuated in the new 26-horsepower four-cylinder model which, owing to its low price, has come in for a great deal of favorable comment. Then there is the double-elliptic form of suspension which is also a feature of these cars as well as numerous others of the lighter types, such as the Ford and Reo, also of the medium weight class, as the Premier.

Varying Standards of Suspension.

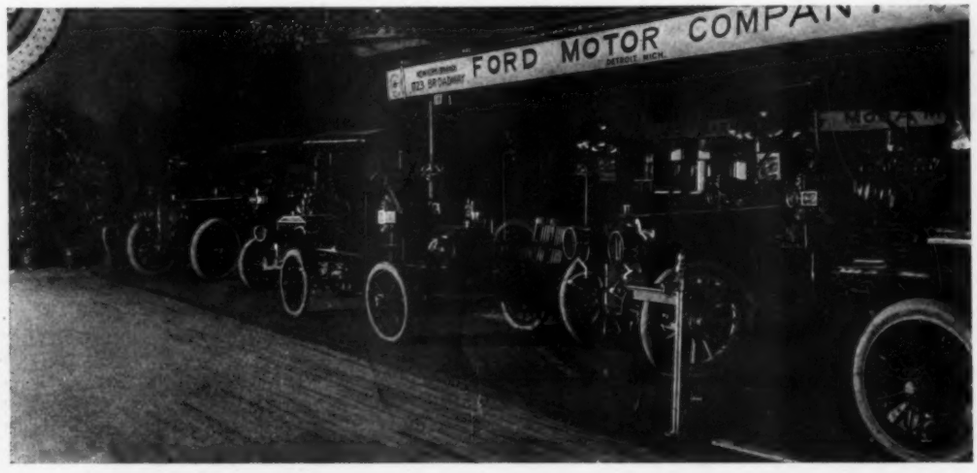
Speaking of springs, it does not take a great deal of observation to learn that makers generally have become divided into two or three well-defined schools where the matter of suspension is concerned. One of the most noticeable things in this connection is the vogue of the platform type or three-point suspension for medium and heavy cars, instances of this being found in the Garford, the Cleveland, American Mors, Pennsylvania, Dorris, Mora, National "little six" and the Great Chadwick, while the Austin is unique in having three-quarter rear or "demi-pincette" springs. The new Ellsworth, which combines so many novel and interesting features, is also noteworthy in this respect in that it is equipped with a special three-quarter type of forward spring, the upper half portion of the latter being riveted directly to the frame ends and taking the place of the usual dumb irons. Another special type is to be found in the American underslung suspension which was first brought out last year, but which always attracts a great deal of favorable attention owing to the unusually attractive lines it gives the car. Quite the most novel thing to be noted in this field is the combined helical spring and shock-absorber suspension of the Brush cars, while another car using this type of springs is the Lansden electric

EXHIBITION CHASSIS OF THE UNDERHUNG AMERICAN.

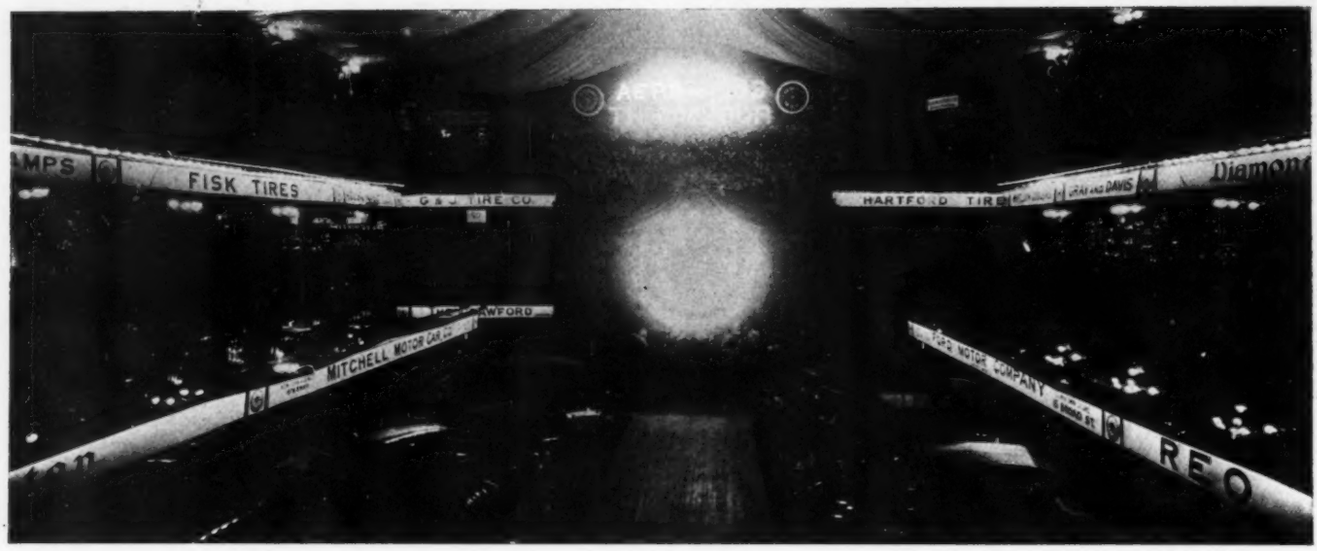
touring car in which they are employed to advantage together with solid tires of the twin type, providing unusually easy riding.

Some Transmission Tendencies.

It was thought a few years ago that the planetary type of change-speed gear would soon cease to be a factor, but it requires very little observation to show that this is far from being the



HERE THE BIG AND LITTLE FORDS MET AN UNENDING STREAM OF ADMIRING FRIENDS.



NIGHT VIEW OF THE MAIN AUDITORIUM WHICH SHELTERED PROMINENT CAR AND ACCESSORY EXHIBITORS.

case. In fact, the planetary gear is a feature of cars of both extremes, for it is found on the Reo single-cylinder runabout and on the Ford six-cylinder cars, as well as the new Gearless six-cylinder, although it is of a special type that is attracting a great deal of attention. The Gearless transmission is practically a friction drive type of planetary change-speed gear consisting of but three simple and substantially made parts, a cup, cone and cage of fiber-faced tapered rolls. The planetary gear is also a noticeable feature of the new Overland car, particularly owing to the radical departure made in its installation. This newcomer is a shaft-driven car, but instead of placing the gear-set directly back of the four-cylinder Rutenber motor which forms its power-plant, it is located at the rear end of the propeller shaft, just forward of the differential housing and in a separate inclosing case of its own, the high-speed clutch being made readily accessible for adjustment by means of a handhole. In all there are about twenty cars shown with planetary gears, representing eight or nine different makes, of which the Maxwell runabout, Moline and Atlas two-cylinder cars, Holsman and Kiblinger runabouts are some further instances. Exceptions to the practise of using this type on light cars and buggyabouts are to be found in the case of the Reliable Dayton with its sliding gear and the Schacht and Hatfield with a friction type. In the larger cars the friction drive finds its best examples in the Lambert, Cartercar and the Gearless. With these exceptions, the use of the selective type of sliding gear is almost universal on all except the lighter of the four-cylinder cars on which the only difference is the method of operation, such cars as the lower-priced models of the Mitchell, Moline, Dragon, Grout, Eagle and Maxwell, working on the progressive system. Cone and disk clutches and final shaft-drive are the predominant notes where the remaining essentials of the transmission are concerned, when taken in the aggregate.

Magneto Ignition Becoming Universal.

It takes but a glance to show the prevailing use of the magneto, and when it is considered that this is on cars where it was virtually unknown up to two years ago, suffices to indicate the extent to which mechanical generation is being adopted. The Dorris, Glide, Ellsworth, Frontenac, National, Welch, Allen-Kingston and Chadwick are a few on which the Bosch high-tension type is shown, such makes as the Rainier, Gaeth, Cleveland, Garford and Premier—the last-named an entirely new convert—using the same make in the low-tension type, while the Eisemann is to be found on the Moon, De Luxe and a number of others, the Gianoli on the Frayer-Miller and the American Napier, the Remy on the Marmon, and the Holley on the Ford, all these being of the high-tension order. In practically every case the standard form of high-tension ignition using accumulators or dry batteries as a current source, a primary timer and a four-unit coil is employed as a standby, and in the last-named rôles, the Splitdorf, Connecticut, Pittsfield, Kingston, Heinze, Autocoil and other makes figure prominently. The Ellsworth is a noticeable exception where its ignition arrangements are concerned, the Bosch high-tension magneto being placed in the hollow dash of the car which also shelters a twin-unit coil for the reserve side of the system. Despite the cost of a high-grade magneto of either type, they are now included as a part of the regular equipment of cars on which it was thought impossible to supply anything more ambitious than dry cells but a few years ago.

Some General Observations on New Things.

Considering as new cars all those which have never participated in a show, it is surprising the number to be seen in the Palace that can be included in this category, both those that are new in name and make as well as those that are entirely new designs by old-line makers. Under the latter heading must be included such productions as the new six-cylinder Premier with low-tension ignition, though of course most of the sixes are new in one sense, but in this case the design is entirely novel, which likewise applies to the showing of the Stoddard-Dayton with its specially designed motor, the water-cooled Marmon, the Great Chadwick Six, the Atlas three and four-cylinder, two-cycle cars, the Lansden electric touring car, the Jackson four-cylinder and one or two others. Then there are the new cars that have been out for several months, such as the Brush line, the Gearless, the Overland, the Allen-Kingston, and the like, as well as those that are brand new in both design and title, such as the Ellsworth. One of the noticeable things to the man who takes the trouble to look down at tires and rims is the general adoption of the detachable type of the latter, of which some prominent instances are the Goodrich on the Frayer-Miller and the Klink, the Goodyear on the Reo and Great Smith, the Midgley on the Mitchell, the Fisk on the Lambert and others, the adoption of Michelin tires by some American makers as regular equipment also being worthy of note. Of course, there are a number of instances in which some of these newcomers combine so many novel and interesting features that they can only be done justice to by a complete description, which is necessarily out of the question in any such casual review as this is intended to be. One or two instances of this that come to mind are the new Ellsworth, the Premier six-cylinder model and some medium-priced cars such as the Overland. Then there are the unusually low prices—but that is a story in itself.

MEDIUM-PRICED CARS ARE INCREASING

By W. F. BRADLEY.

IT is but natural that, in the automobile field, America should have found her widest field of activity in the production of vehicles intended for the man of average means. European constructors laid themselves out from the commencement to capture the wealthy who would take up their successive annual models without looking too closely at the price demanded for their acquisition. On this side of the Atlantic there was an early tendency to cater to the medium class trade and produce low-priced cars in big series which would find a ready market because of their democracy. The tendency has become such a national trait that when a European constructor decides to market a popular vehicle it is introduced as "American method." At the democratic show in the Grand Central Palace the popular automobile was not only much in evidence, but attracted attention because of its uniform excellence and the good value offered for a medium sum. Prices, it is true, range all the way from $250 to $7,000, but it is in the class between $1,500 and $2,750 that the many attractive vehicles are to be found.

In view of what has been done by a few firms making a specialty of this class of business and the known activity of others to enter the low-price market, it would not be safe to predict that touring cars will never be built successfully and in any great numbers for less than $1,500. Nevertheless, below this sum profitable construction becomes difficult and can only be successfully undertaken when it is possible to construct in exceptionally large series and market with the minimum expense. Automobile buggies must not be included in these generalities, for it is certain that within two or three years these vehicles will be in use in thousands in every rural district. In view of the special work they are built to perform, it would be more correct to classify them as commercial than pleasure vehicles.

At less than $1,000 a dozen firms offer about twenty models, more than half of which are of the buggy type and only four are really four-seated touring cars. From $1,000 to $1,500 there are again a dozen firms with a score of models, four and five-seated touring cars predominating over two-seated runabouts. With a few exceptions, notable among them being Ford, Mitchell, Overland, and Jackson, the power plant consists of a single cylinder or a double opposed engine. Ignition invariably is jump spark with current obtained from storage batteries, magnetos unfortunately not yet being procurable in this country and the imported article being too costly to fit to a low-priced vehicle.

It is from $1,500 to $2,500 that the best value in the show is to be found, the cars between these two figures including some thirty makes, which, for general excellence and proportionate value for money, surpass both the lower and the highest priced classes. Striking an average, for $2,200 there is a choice of nearly a score of four-cylinder touring cars which should appeal strongly to the man desiring a reliable, economical automobile sufficiently simple for him to attend to all its ordinary wants himself, powerful and roomy enough to carry four or five people at a moderate rate over average roads, and sufficiently light in construction to be economical in the use of tires.

There is a general uniformity in the mechanical features of the cars comprised in this class, four-cylinder engine forward, sliding gear transmission, generally of the selective type, and shaft drive. Two-cycle engines, planetary and friction transmission, have their share of supporters, but are really only a small part of the whole. As in the lower priced vehicles, electrical source is almost invariably obtained from storage batteries. The value of a magneto as a standard equipment is no longer doubted by any maker, but circumstances make it difficult to adopt this article for any car selling at less than $2,500. Even at this figure more than 50 per cent. of the makers adhere to storage batteries, and only one $1,500 car is listed with a magneto. As soon as the $2,500 class is reached the prospective purchaser has the choice of ten different cars fitted with a reliable make of high-tension magneto.

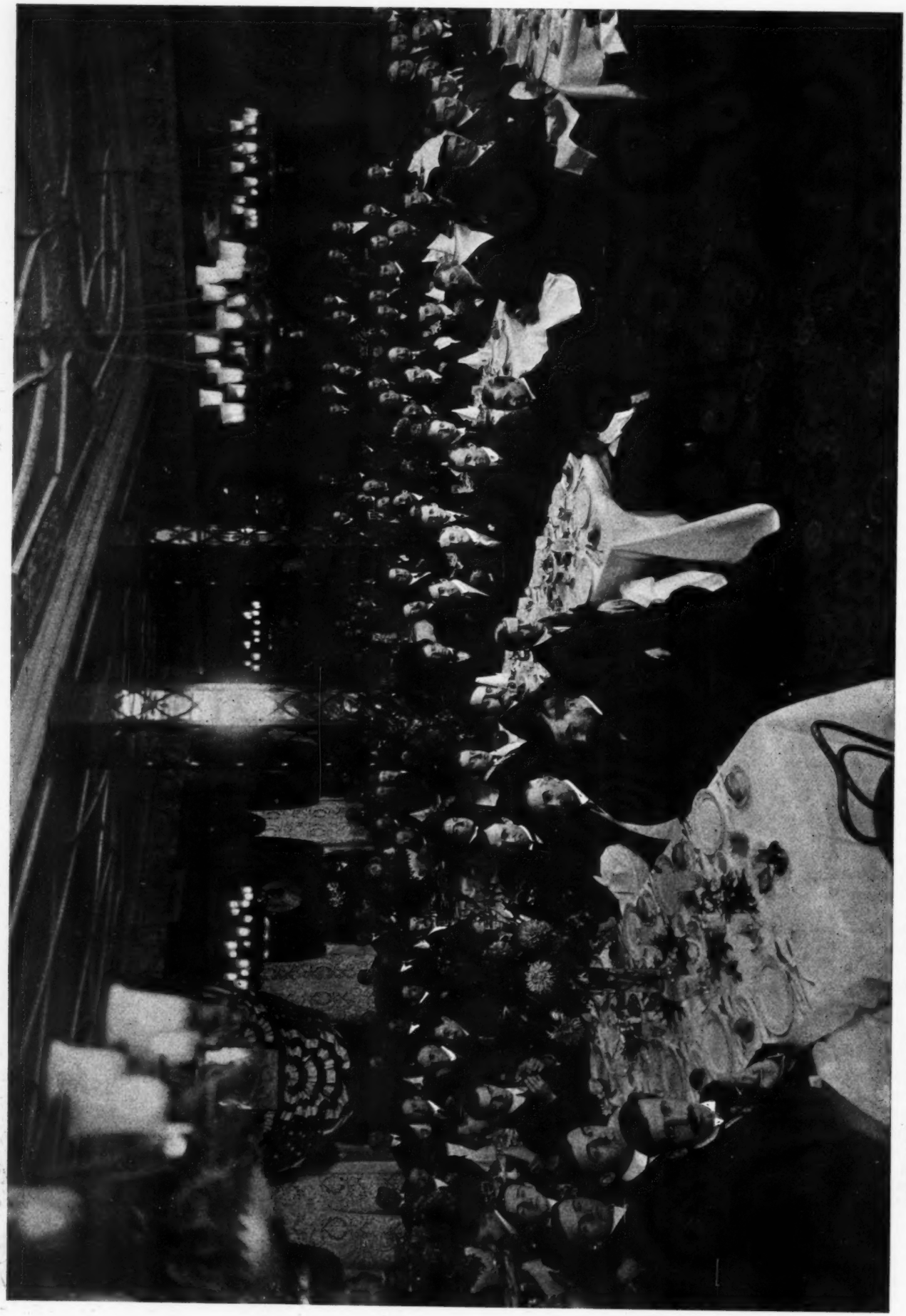
Of equal interest to the amateur automobilist not overburdened with cash is ease of maintenance and accessibility of every mechanical part. The wages of a hired chauffeur being altogether out of proportion to the cost of a $2,000 car, it is imperative that the popular machine should be of such simplicity that its owner can keep it in order with the minimum of labor. Where a skilled mechanic is engaged to tend an automobile, the matter of freedom from complications is of lesser importance, but for any popular machine simplicity must be developed to the utmost. Generally this has been realized by the manufacturers in their 1908 models, all the more glaring defects of a couple of years ago being remedied in the latest productions. Lubrication has been simplified and better provision made for attending to such parts as rear axle, differential, steering gear, and transmission. Although it is not anticipated that dismounting the engine will be a weekly occupation, design has been so simplified that in the majority of cases almost any part of the machinery can be examined with little trouble. There is still room for further development along this line, but when one remembers the models of a few years ago—some of them considered the best of their time—in which it required an hour's labor to open the gear box and the task of examining the main bearings were not to be undertaken unless one had an entire day to spare, the improvements of the 1908 popular models, as shown at the Grand Central Palace, are most satisfactory to the man who drives and cares for his own car.

CANNOT BUILD A CAR UNDER $1,500.

PARIS, Oct. 23.—Gustave Clément, one of the largest automobile constructors in France, and who has been prominent in the industry since the bicycle days, declares that there is not much to fear from the contemplated American invasion. The announcement was made on receipt of the news that a four-cylinder American car was to be placed on the French market at $600.

"Not only is French workmanship superior to American, but we possess the same tools, and it is utterly impossible to construct a good touring car for less than $1,500. Light machines built in America are good, perhaps, for the city, but never for the roads."

WHERE THE POPULAR-PRICED BRUSH WAS EXHIBITED.



ANNUAL SHOW LUNCHEON OF THE AMERICAN MOTOR CAR MANUFACTURERS' ASSOCIATION, HELD AT THE HOTEL MANHATTAN, NEW YORK CITY, TUESDAY, OCTOBER 29

A. M. C. M. A. AUTOMOBILE SHOW LUNCHEON

IT was a notable array of automobile interests represented in the annual show luncheon of the American Motor Car Manufacturers' Association, held at the Hotel Manhattan, Tuesday, beginning at 1 P.M. Job E. Hedges filled the toastmaster's rôle in his usual brilliant manner, his vein of seriousness being meagerly interjected into his infectious humor. Benjamin Briscoe, chairman of the A. M. C. M. A. Committee of Management, was the chief spokesman of the "Independents,' and H. O. Smith, chairman of its Show Committee, also contributed words of wisdom. In the absence of President Colgate Hoyt, who was said to be busy down in Wall street, ex-President Winthrop E. Scarritt spoke for the Automobile Club of America. General George Moore Smith, chairman of its Show Committee, said that illness had kept him from doing much work for the exhibition, and he generalized more or less about the kind of an automobile that he considered ought to be manufactured. T. F. Moore had something to say about the stock chassis race, which he is endeavoring to promote for a spring event.

Alfred Reeves, general manager of the A. M. C. M. A., came in for a generous amount of credit in connection with the affairs of the association and the success of the show. Secretary S. M. Butler, of the A. C. A., was among those at the speakers' table, and one who realized the enormous amount of labor which devolved upon his shoulders in connection with the show commented upon the lack of public mention of such an excellent soldier, whose work equaled that of a chairman. Telharmonic music and a flashlight photograph were included in the function, which also had souvenirs in the form of scarf pins.

In the course of his remarks, Chairman Briscoe said:

"I wish to welcome you to this our second annual luncheon, and thank you for the encouragement that your presence here lends. This association feels that it has many blessings. The friendliness of the Automobile Club of America; the kindly consideration of the daily press and the trade press; and the well wishes of the trade at large. We believe also that we have the personal friendship and respect and well wishes, perhaps not in a business sense, of those who are not of our particular household of faith. I presume that in an address of this kind one should stick closely to glittering generalities, but permit me to indulge in a few little association statements that tell why we are leaders in the industry. This association is the largest organization in the manufacturing industry. It has done much for its members and for the trade at large, for it has, with a true American spirit, fought for an independence in this particular industry which has undoubtedly done much to bring about a better development for the American automobile. This association bears no ill will toward any; it harbors no malice; and goes along attending to its own business and, if press reports are to be relied upon, its business constitutes a very large proportion of this particular industry. Of course, if it has any time left over, it attends to those who attend to its business. It believes that all the brains and all the ability are not even yet developed to the full benefit of the American motor car, and it also believes that not the only ones are those of the bluest blood or the purest aristocracy who maintain in their headquarters pieces of antique furniture, as it has been demonstrated that much of the antique is but a replica with many evidences of modern handiwork. It believes that success in the automobile business can only be attained by modern methods, and that every movement forward must feel fresher initiative and invention and it opines that the sequestered idol must needs be rejuvenated and renovated constantly to be maintained as a contributional shrine. Now I trust that I may have said nothing the least discourteous or that to it may be taken the slightest umbrage, for there is no class that we admire more, whose friendship we esteem more highly, than that of our friends, the stalwarts, who stick to their principles, even though they are parties to a contract. Our association is open to them and to any legitimate manufacturer in the industry.

"I desire to thank our eminent friend, Mr. Hedges, who so kindly consented to act as chairman of the steering committee on this occasion, and I desire to say to him that this association owes much to his advice and to his counsel. We thank him for it, and thus I pay him his retainer for another year."

The guest list included the following:

Benjamin Briscoe,
James Couzens,
H. O. Smith,
W. M. Lewis,
Henry Ford,
R. E. Olds,
J. B. Bartholomew,
A. C. Newby,
C. E. Duryea,
John Kane Mills,
Paul Gaeth,
C. D. Rainier,
S. H. Mora,
Job E. Hedges,
Alfred Reeves,
C. G. Stoddard,
C. S. Johnston,
G. D. Wilcox,
R. Harry Croninger,
C. B. Hatfield,
W. C. Marmon,
H. C. Marmon,
R. B. McMullen,
R. M. Owen,
R. E. Renshaw,
J. F. Klink,
Fred P. Brand,
Thomas P. Bailey,
L. A. Hopkins,
Gaston Plaintiff,
A. R. Welch,
L. H. Perlman,
Henry Rawle,
A. L. Kull,
J. M. Ellsworth,
Thomas J. Fay,
W. Hildreth,
Paul Lineberger,
David J. Post,
Mr. Moeller,
C. S. Jameson,
G. D. Louderback,
C. J. Meegan,
Charles J. MacIlvain,
A. D. VanDyke,
C. A. Matthews,
Mr. Duncan,
J. F. Billings,
Stewart McDonald,
C. V. Powers,
S. H. Tucker,
James Laughlin, Jr.,
John C. Wetmore,
J. C. Kerrison,
H. W. Beane,
F. A. McAllister,
Howard G. Reynolds,
G. A. Blanchard,
Fred J. Wagner,
N. Lazarnick,
S. Wallis Merrihew,
James Artman,
H. P. Burchell,
F. W. Roche,
T. B. Creamer,
L. M. Bradley,
Gen. George M. Smith,
Winthrop E. Scarritt,
S. A. Miles,
R. A. Parker,
James Joyce,
P. S. Steenstrup,
Percy Owen,
C. A. Mabley,
H. E. Raymond,
H. T. Dunn,
C. W. Kelsey,
J. W. Gilson,
J. N. Willys,
Frank Briscoe,
A. M. Bartholomew,
L. P. Mooers,
R. A. Whitney,
C. G. Luthy,
Joseph Tracy,
R. E. Graham,
W. C. Allen,
F. E. Moscovics,
E. J. Moon,
Henry A. Holsman,
W. H. Harrison,
K. C. Pardee,
Charles Lewis,
Walter Law, Jr.,
W. N. McIntyre,
H. M. Woodrough,
W. I. Glasby,
W. A. Austin,
Mr. Robinson,
C. B. Judd,
Charles Barnes,
W. H. Scott,
W. H. VanDervoort,
Max Grabowsky,
Morris Grabowsky,
Mr. Hale,
R. A. Palmer,
F. I. Tone,
Neal VanDervoort,
A. E. Kennedy,
E. L. Ovington,
F. L. Holmes,
Dr. Clement Smith,
E. W. Gans,
J. K. O'Brien,
S. C. Lindoerfer,
Allen Miller,
James Laughlin, 3d,
A. N. Jervis,
R. B. Johnston,
W. Murphy,
E. C. Ward,
H. F. Donaldson,
N. H. Van Sicklen,
F. Ed. Spooner,
A. S. LeVino,
W. E. Baldwin,
G. H. Busby,
W. G. Pierson,
R. G. Betts,
J. K. Hiscock,
R. B. Johnston,
William H. Hotchkiss,
Jeff. deM. Thompson,
A. R. Pardington,
Robert Lee Morrell,
Frederick H. Elliott,
E. V. Stratton,
H. M. Swetland,
A. G. Batchelder,
Frederick A. Harris,
H. H. Rice,
C. T. Vance,
J. S. Draper,
B. A. Cramm,
W. A. Woods,
W. M. Remphis,
W. H. Burchell,
Horace DeLisser,
M. W. Mack,
W. Huriburt,
W. N. Freeman,
Barney Everitt,
W. M. Sweet,
Isaac B. Potter,
H. S. Smith,
F. R. Dreisbach,
Robert A. Patterson,
Harry P. English,
F. A. Austin,
W. H. Brinkerhoff,
H. A. Bubb,
Nicholas Johnatgen,
E. G. Allen,
M. Clemons,
W. G. Morse,
E. P. Blake,
R. M. Bates,
W. L. Gorton,
F. G. Goadby,
T. P. Myers,
H. G. Edwards,
George D. Wilson,
Thomas Forbes, Jr.,
H. W. Nicholson,
George C. John,
F. J. Pell,
W. H. Blodgett,
C. E. Alexander,
F. L. Loomis,
R. E. Hawkins,
B. F. Stevenson,
W. Horner,
Mr. Walburg,
Duncan Curry,
J. T. Sullivan,
L. C. Boardman,
Lloyd Humphreys,
G. A. Wahlgreen,
David Beecroft,
Charles S. Wells,
E. E. Schwarzkopf,
C. A. Musselman,
A. B. Tucker,
Joseph Goodman,
Roy Drake,
Frank Crane.

MR. STEENSTRUP ON EUROPEAN SITUATION.

Peter S. Steenstrup, sales manager of the Hyatt Roller Bearing Company, of Harrison, N. J., returned recently from an extended European trip in the interests of his firm. According to Mr. Steenstrup, the foreign outlook could be more promising than it is, though the results of his trip were uniformly successful. According to Mr. Steenstrup, there has been some overproduction, and the foreigners are considerably disappointed at their inability to hold as much of the American market as formerly. Nevertheless, they profess no fear whatever from the possible invasion of Europe by American makers.

A CHAPTER OF GOSSIP OF THE PALACE SHOW

Ever since the Automobile Club of America was organized there has been a persistent worker in the background, one who never seeks the limelight, one ever willing to share with others the credit for things accomplished, and to whose untiring efforts is unquestionably due a vast amount of the success of this great big club with its palatial home in West Fifty-fourth street. Secretary S. M. Butler is the hidden mainspring in the works, a master of detail, patient and diplomatic, seldom ruffled, and treating all comers with uniform courtesy. Were it not for "Sam" Butler the A. C. A. would not have been the powerful factor which it is in automobiling, nor would the organization have continued in the show business after the severance of its connection with the Garden affairs. Butler it was who argued, and successfully too, that the club could not afford to relinquish its work in the direction of show promoting, and, forcing the issue, there came the arrangement with the "Independents" and the notable exhibition of 1906 in the Sixty-ninth Regiment Armory. It will be a day of sorrow for the A. C. A. if it should ever lose the services of its secretary. Presidents are made; good secretaries are born.

* * * *

There is another organization the burden of whose success also traces back to a persistent worker, whose skilful direction of affairs has brought order out of chaos and caused the adoption of a consistent policy which has been of great benefit to the membership. "Al" Reeves has accomplished much for the American Motor Car Manufacturers' Association since he took the office of general manager less than two years ago. The results of his labors were apparent in the January, 1907, show, and they have been even more apparent in the October exhibition which closes to-night. Reeves never seems to weary, and he is always on the job from early in the day until well into the night, if it be necessary. Understanding the value of publicity and knowing how to obtain it, he has made the A. M. C. M. A., from something that was scarcely more than a name, into an association which has caused the "other camp" to be on its mettle and carefully watchful of the moves of the "Independents." Reeves ought to be able to size up the European situation accurately and bring back information upon which the members of his association should realize profitably.

* * * *

Benjamin Briscoe (Maxwell-Briscoe).—"It is the finest show we have ever held. We never did better business and we never had more reason to be satisfied. The class of trade represented at this show has not been affected by the financial disturbance."

* * * *

H. O. Smith (Premier).—"We need one big national show, in which all questions of creed and doctrine shall be dropped; a show of such magnitude that the public will be able to realize what a big industry this is. Probably the best time would be August, the date being arranged to suit the rural populations, which are becoming more and more interested in automobiles. For the good of the industry it would be desirable as far as possible to obliterate the definite marking of the various seasons. The automobile is a practical conveyance, and as such is useful all the year around. The financial disturbance is only temporary and local; we should act cautiously, but without fear.

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J. B. Bartholomew (Glide).—"There is no doubt that the show has been an excellent one. I should prefer an outdoor show in August, with important races as an attraction. There is nothing to fear from the financial disturbance. Wall street is not the whole country."

* * * *

R. E. Olds (Reo).—"It was unfortunate that a financial disturbance should have arrived at the opening of the show season, for the newspapers have had no space to spare for our doings. October is too much in the fall to be the most satisfactory show date. January would suit best of all. Shows are no longer useful as a selling force. I should like to see a huge outdoor exhibition in summer. At present the public does not realize what a stupendous industry this is."

* * * *

S. H. Mora (Mora).—
"Is the early show satisfactory?"
"Well—have you had your dinner?"
"Yes."
"Will you have another?"
"No, thanks."
"Just the same with the shows. We have been handling automobiles all the summer and we have no appetite for another feed. I voted for an early show, but now think December the finest proposition. The financial situation won't harm. Nineteen hundred and seven was a slow year; numbers of people kept their old cars; next season there will be a proportionate boom."

* * * *

A. C. Newby (National).—"Early shows are good, but this one is not early enough. The best proposition is an outdoor show in August. Before the Long Island parkway was proposed I was interested in a five-mile race course on Long Island, which would have been an ideal spot for a national summer outdoor show; an attractive race program would have guaranteed huge crowds. We have still need of such a track, and if the East does not build it the West will. There is an excellent site for such a course in Indiana, in which a number of us are interested. Next year the show will probably be in September, and the following year will see it in August, and outdoors."

* * * *

R. Harry Croninger (Pennsylvania).—"Shows do not now sell automobiles. They are valuable as a means of publicity, but the actual selling is done by agents, who come directly to the factory and have no real need of a show. I am not an advocate of a yearly show, nor of a yearly model; thus date is immaterial to me. Sales have been few, for the public is waiting for the Garden show, and the financial disturbance has had a bad influence. But the trouble is only local and has not even been felt in a city so near as Philadelphia."

* * * *

H. B. Larzelere (Chadwick).—"An excellent show in every respect. Sales on the whole have been poor, though we have no complaint to make. A number of small firms from the West, exhibiting for the first time, have forgotten to reckon with the big manufacturers of cheap cars, and will have to go under. There will be a weeding out next season, and during the following year more money than ever will be made in the automobile business. Shows are now of minor importance as a retail selling factor."

* * * *

Howard Marmon (Marmon).—"We have had to hustle to get ready for the earlier show, for it was necessary to gain a couple of months. The new date is satisfactory from a manufacturing standpoint, for it gives more time to produce the year's models. Two shows in close succession are good. Hundreds who would have had to decide between one or the other can now visit both."

* * * *

N. A. A. M. Had Small Amount in Knickerbocker.—A rumor came to the surface during the week that the N. A. A. M. had a considerable amount deposited in the Knickerbocker Trust Company. The report was erroneous, and General Manager S. A. Miles said that the amount was comparatively small, for the National Association has its funds deposited elsewhere.

BROOKLANDS RACING SATISFACTORY.

LONDON, Oct. 24.—Last Saturday's meet at Brooklands—the fifth and final for this season—proved to be the most interesting that has yet been held. There was an entire absence of the interminable waits between events so characteristic of previous meets, and a new rule requiring all cars to be filled with exhaust boxes greatly added to the comfort of the spectators.

Prompt to time the Medium Handicap Sweepstakes was run off, the limiting cylinder dimensions (D^2N) being 104-122. Of the nine entrants, the most interesting—the Brasier which won the last Gordon-Bennett—was unable to start; nevertheless, plenty of excitement was provided by the race, which led to a win by the 48-horsepower Metallurgique, with an average speed of 62 miles an hour over the five-mile course. A Pipe was second and Huntley Walker's Darracq was third.

Without any delay the 26-horsepower cars were lined up for the next event. A close race between a Metallurgique and a Napier proved a narrow victory for the latter, third place falling to the Arroll Johnston. The winning Napier was originally a six-cylinder model, but to bring it within the prescribed limits the two front cylinders were removed, a new crankshaft and valve gear fitted, and a fast and efficient four-cylinder car was thus evolved.

The October Handicap was won by Fry's new 75-horsepower Mercedes (really one of the 135-horsepower racers). This car also won the race for 90-horsepower cars with an average speed of 92 miles an hour for the 21 miles. In this latter race a 120-horsepower Fiat should have taken second place, but at the entrance to the finishing straight the driver mistook the signal and kept to the outer course, allowing the Hotchkiss 130-horsepower car to come up meanwhile and gain second award.

The 60-horsepower race brought out another Napier as a winner, as before closely followed by a Metallurgique. A higher powered Napier than the winner only managed to take third place.

The best race of the day was seen in the following event, a private match between a Napier and an Iris—a Dennis car, which also ran, being out of it from the first. Right at the start the two cars got together and at half way but three yards separated the Napier from the Iris, which followed it. Nearing the finish the Iris made a sudden spurt (presumably oxygen), but just failed to win by the length of the Napier's bonnet.

No further race meeting will be held on the track this year, for, although a big meet was planned for the time of the Olympic show next month, the trade rather objected to such a diversion from serious work and the scheme was in consequence abandoned.

EDGE TO BEAT RAILWAY RECORDS.

LONDON, Oct. 24.—The ubiquitous S. F. Edge is not at all satisfied with his recent 24-hour record and proposes to startle the world with another big achievement. The fastest express train between London and Edinburgh travels over the North Western and Caledonian lines and is booked through in eight hours, an average speed of just 50 miles an hour. Edge has wagered a big sum with the Hon. Dudley Carlton that he will cover this 400 miles in five and one-half hours in a 60-horsepower Napier, equipped with flanged wheels to run on the railroad tracks. If the necessary permission can be obtained the run will shortly take place. The loser will pay the amount of the wager to the Railwaymen's Orphanage.

U. S. A. INTERESTED IN PARIS CONFERENCE.

PARIS, Oct. 21.—Alcohol, touring and motor boats are the three subjects for special international conferences during the three weeks of the Paris Salon. Most important results are expected from the conference on denatured alcohol. Frank Rutter, of the United States Department of Agriculture, has written to Gustave Rives asking for information on the matters to be discussed at the denatured alcohol conference, and declaring his intention of being present.

BROOKLANDS COURSE AS SEEN FROM THE MEMBERS' ENCLOSURE, SHOWING VAST EXPANSE OF TRACK SURFACE.

TO SECURE GOOD ROADS: MAKE FARMER AN AUTOIST

PHILADELPHIA, Oct. 28.—Many of the more prominent local automobilists journeyed out to Swarthmore last Saturday afternoon, where fully 250 enthusiasts had gathered at Strath Haven Inn, as guests of the Good Roads Association of Delaware county, to discuss the various phases of improved highways. First, however, they discussed a bountiful banquet, after which, without moving from their places at the table, the convention was called to order. Besides the local lights, there were several prominent good roads enthusiasts present from New Jersey, Delaware, New York, and other States. One of the headliners, State Highway Commissioner McDonald, of Connecticut, failed to reach Swarthmore in time, but sent a telegram.

The president of the Automobile Club of Delaware county, J. W. Weeks, was in the chair, and after announcing the objects of the gathering introduced "Good Roads" Sproul, the State Senator after whom the present good roads law of Pennsylvania is named. The Senator urged the people—the townships and the boroughs—to take hold of the problem at once and not wait for help from the State, although he admitted that Pennsylvania would eventually be forced to follow the example of New York in the building and maintenance of main highways.

R. J. Baldwin, road supervisor of Birmingham township, made quite a hit when he urged the automobilists to endeavor to interest the farmer in the motor vehicle. "Get in touch with the makers of $350 and $400 cars," he said, "and find some means of introducing these machines among our farmers, and it would not be long before the latter would be anxious to co-operate with us. And the result would be such that there would be no difficulty in carrying on the work after a start had been made. Improve our pike roads and the $30-an-acre farms would soon command $100 an acre. As an instrument in promoting the good roads cause there is nothing in the same class with the automobile. I urge you to make automobilists of our farmers."

So impressed was President Weeks by Mr. Baldwin's suggestion that before introducing the next speaker he promised to introduce the matter at the next meeting of his club.

William I. Schaffer, official reporter of the Supreme Court of Pennsylvania, said that "as a Delaware countian, Senator Sproul had begun the agitation that had resulted in the passage of the present good roads law, it was eminently fitting that our county should lead the State in interest, enthusiasm and the fight for proper legislation on the subject. The State," continued Mr. Schaffer, "should build great highways from Philadelphia to Pittsburgh, from the latter city to Erie, thence to Wayne county and along the western border of the State."

Highway Commissioner Joseph W. Hunter expressed himself in favor of a $25,000,000 or $50,000,000 loan, as the project was much too vast for the township to handle properly. He called attention to the fact that since he took charge of the State's good roads work over 300 miles of improved highways had been built. "The mere building of good roads, however," said the commissioner, "is the easiest part of it. The real problem is the future maintenance of these improved highways."

Addresses were also made by Isaac B. Potter, of New York; District Attorney McDade, of Delaware county, and J. R. Robinson, chairman of the Law Committee of the Automobile Club of Delaware county. Before adjournment President Weeks announced that another meeting would be held in a few weeks to take initial steps for the improvement of the Wilmington and the Baltimore pikes.

SENSIBLE MASSACHUSETTS PLAN OF OBTAINING NEW LAW

SPRINGFIELD, Mass., Oct. 28.—At the suggestion of former State Senator M. A. Morse, of Belchertown, now a lecturer of the State Grange, a committee of the State Grange, representing the farmers, and a committee representing the automobile clubs of the State will hold a joint conference for the purpose of agreeing upon a new automobile law to be introduced into the Legislature during the next session.

By means of the conference former Senator Morse hopes to overcome the prejudices that exist among the farmers against the automobile, owing to ignorance, and to show the automobilists wherein they have transgressed against the farmers' rights. Such a conference, he believes, will result in a State law which will be more satisfactory to both sides than any of the present legislation.

For the automobilist, it will be the purpose of the conference to inculcate into the new law an article permitting the autoist to go as fast as he pleases on an open straight road where there is absolutely no danger to pedestrians, and to do away with the closed road situation existing in a large number of the towns in the Commonwealth, notably Nantucket.

For the farmers, it will be the desire of the grange committee to get fair, equable restrictions on speed near crossroads and on curves, and general rules of the road that will reduce to a minimum the chances of the farmer's horse taking fright at the passing of an automobile.

Mr. Morse will place his scheme before the annual meeting of the State Grange in Pittsfield in December, and he has already received assurances from members of the granges all over the State that the plan will be considered favorably at that session. Interviews with leading autoists in the different parts of the State have convinced him that the automobilist will be quick to embrace the scheme, and the prospects are now that a first-class State law will be drafted at that time which will receive the support of the farmers and autoists throughout the entire State.

NEW YORK OFFICE FOR REGISTRATION.

A convenience to metropolitan automobilists who desire to tour in New Jersey and Pennsylvania and find it necessary to secure their registration in something of a hurry, will be found at 197 Fulton street, New York City, where the president of the Brooke Automobile Supply Company acts as an agent for the New Jersey Commissioner of Motor Vehicles, and also as a representative of the Pennsylvania State Highway Department. This makes it possible to accomplish registrations and at the same time have your car equipped with hangers and lamp numbers five minutes after signing the necessary applications.

RESTRICTIVE LEGISLATION IN ONTARIO.

The report emanates from Toronto that there is to be war on the automobile at the coming session of the Ontario Legislature. The initiative will be taken by the members representing a number of rural constituencies. It does not appear to be a party question, for those planning action are seated on both sides of the House, though the large majority are Conservatives. It is reported that an authenticated list of casualties during the past eight months is being prepared for presentation. This includes the ditching of over thirty farmers' vehicles on rural roads.

REEVES TO LOOK INTO EUROPEAN MARKET

LONDON'S annual automobile show at Olympia and the Automobile Club of France's tenth annual salon in the Grand Palais are to be visited by Alfred Reeves, general manager of the American Motor Car Manufacturers' Association. The visit is the result of a decision arrived at at Monday's meeting of the Committee of Management of the association, its manager being charged to inquire into the European situation with a view to a possible invasion of the foreign field by the fifty-one manufacturers holding membership in the A. M. C. M. A. The London show being held from November 11 to 23 and the Paris exhibition from November 12 to December 1, Mr. Reeves will sail for Europe soon after the closing of the Palace show.

In addition to visiting the two national exhibitions, Mr. Reeves will make inquiries as to the best methods of selling cars, whether through agents or branch houses, the best plans of advertising for foreign countries, and other matters. In view of the entirely different methods of selling in most of the countries of Europe, and the small amount of attention which has hitherto been paid to this matter by American firms, it is expected that the report of investigations which Mr. Reeves will present before his association will be of considerable interest. It is also proposed to consider the advisability of a joint American exhibition at the Paris and London shows next year to be participated in by all members of the A. M. C. M. A.

At the same meeting of the association it was decided to work further on the matter of admitting gasoline trucks to the docks and piers of New York, and to start a campaign in other seaboard cities. About half the docks in New York now permit their use.

The idea of a stock chassis race in the spring under proper management was strongly endorsed. It was recommended that it be held early in May.

B. F. Everitt of the Wayne Automobile Company was elected a member of the Committee of Management. In attendance at the meeting were Benjamin Briscoe (Maxwell), Chairman; R. E. Olds (Reo), W. H. Van Dervoort (Moline), Charles Lewis (Jackson), C. C. Hanch (Marmon), J. H. Bartholomew (Glide), A. C. Newby (National), and Charles E. Duryea.

BRITISH MAKERS AFTER AUTOIST OF MODERATE MEANS

LONDON, Oct. 24.—With the approach of the Olympia Show, the usual rumors of immense price reductions are in evidence, but direct inquiry reveals the fact that, for the most part, these reductions are merely nominal, and in cases where a distinct drop in prices is to be made it is occasioned by the production of a lower powered model. Napiers started the list of 1908 announcements with the news of their 30-horsepower six-cylinder car, to sell at $2,875, chassis with tires. This is undoubtedly a big drop for Napiers, whose previous six-cylinder models have been listed in the region of $5,000, but by complete standardization this lower powered but high grade model becomes a commercial proposition at the low figure mentioned. Daimlers, too, are credited with the production of a new model of about 20 horsepower, to have live axle drive, and selling at $2,250 or so. Lower down the scale Humbers, at their immense new Coventry factory, plan to turn out 4,000 cars of 10-12 horsepower at $1,375, and it is around this power and price that the keenest competition will center. Some of the highest grade French makers are reported to be busy with cars of this type, and the exclusive manufacture of high-powered cars will be abandoned. The Mercedes people themselves were supposed to be bringing out a medium priced car, but this plan will probably not mature until 1909 season, though the Austrian branch of the Mercedes company is straightway putting on the British market a 25-horsepower car at a moderate figure.

Full details of the new season's productions of most of the makers are not yet available, but there is no doubt that attention is now everywhere turned to the "autoist of moderate means," and it is for his favor that the manufacturers and their agents will struggle next year.

"ISOLATED" EXHIBITS DURING SHOW SEASON.

While the fortnight of shows is in progress the Waldorf-Astoria and the Breslin hotels each invite to a one-firm exhibition. At the former the American Locomotive Automobile Company exhibits its 1908 models built under the French Berliet license. Prominent in the series is the new six-cylinder touring car and a new shaft-driven four-cylinder town car fitted with closed body.

In the public room on the ground floor of the Breslin the Atlas runabout is being exhibited during the Palace show week and will be replaced during the Garden show by a new Oldsmobile.

The Rambler cars, unable to secure all the space their manufacturers wished for them in the Palace show, are being exposed at the showrooms of Homan & Schulz Company, West Sixty-second street. Three cars and one polished chassis are on view.

GEARLESS NOT MAKING TWO-CYCLE MOTORS.

In the last issue of THE AUTOMOBILE, under date of October 17, it was erroneously stated, in giving a description of the exhibit of the Gearless Transmission Company, Rochester, N. Y., that this concern was devoting its attention to the manufacture of four and six-cylinder cars equipped with two-cycle engines. The error was due entirely to a misunderstanding, as this firm only builds four-cycle engines in the four and six-cylinder sizes.

ANOTHER AUTOMOBILE FROM NEW HAVEN.

NEW HAVEN, CONN., Oct. 28.—The Connecticut Automobile Works, a stock company of out-of-town capitalists, has leased one of the largest factories in this city, formely occupied by the National Folding Box & Paper Company. This factory is to be equipped with new modern machinery for the manufacture of automobiles and commercial vehicles and will start operation early next month. The company will manufacture three distinct styles of automobiles, touring cars, runabouts, and trucks. The entire building, which is one of the largest in this city, will be occupied by the new concern, and on the first floor will be a large showroom and a demonstration room.

BERLIET "SIX" SELLING PRICE IS $7,500.

Owing to an error in the caption under the illustration of the six-cylinder American Locomotive car, manufactured under Berliet license by the American Locomotive Automobile Company, and appearing in our last week's issue, the price of the latest production of this firm was made to appear ridiculously low. Instead of $4,500, it should have read $7,500. The car was not exhibited at the Grand Central Palace show, but during the fortnight of shows is forming the center of attraction at the company's special salesrooms in the Waldorf-Astoria.

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American Makers Fill the Garden for the First Time. Though the show which has held the boards at the Grand Central Palace during the past week will go down into history as the first to have the honor of being an "all-American" show, the fact that Saturday the Madison Square Garden will be thrown open to the public to view an aggregation of cars and accessories also of purely American manufacture seems of more considerable import, due to the fact that much of the history of American automobile shows clusters about the Garden. Our British cousins have taken an immense amount of patriotic pride in referring to cars assembled in toto from French and German parts as "all-British," but this is not the case with this all-American show, as it is everything that the name implies, and as such cannot fail to mark an epoch in the history of the industry. The early struggles of the American maker, both in building and showing a practical automobile, are all inseparably associated with the Garden, so that the fact that American makers are now filling it from top to bottom with products in the shape of cars and accessories is of far greater significance than may appear at first sight. In all previous years foreign cars have formed a very appreciable part of the showing, gradually dwindling until now, when they have been eliminated entirely. As the number of exhibitors is greater than at any previous affair of the kind, it bears striking testimony to the successful growth of the American industry during the few short years that mark the period of its existence.

Adjusting the Rights of All Users of the Road. In an article carefully prepared, giving the automobile its full meed of consideration and setting forth the rights of other vehicles of the road, Henry B. Anderson, in the November *Century*, presents the problem concisely in this sentence:

"The manner of use is the important consideration, and it is plain that there is a nice balance to adjust between the rights of those endeavoring to benefit by this means of transportation and those who are unwilling or unable to do so."

Mr. Anderson says the right to use the road "is a common one," and further on remarks that "what is done in the way of regulation should encourage the most efficient methods of transportation." A point is made of the difference between technical speed violation and driving to the public danger, and reference is made to the practice of "trapping" on measured stretches where traffic is not congested and giving no heed to reckless driving in crowded thoroughfares as long as it is within the legal speed.

Mr. Anderson contends for the licensing of drivers, calling attention to the fact that "An inexperienced man may buy a car and at once go forth to experiment upon the public."

The dust nuisance, Mr. Anderson thinks, and other minor evils of automobiling is awakening the whole country to an interest in the improvement of the roads. The benefits of better highways "will not be wholly to those who motor for pleasure or transport, for ultimately will come a local cheap and rapid distribution which may render communities largely independent of railways."

The comments of this writer are eminently fair and well worth the perusal of the owner, the man who hopes some day to own and those who have the desire and not the means to consummate their wish. But some day everyone, in some form or another, will benefit by motor-driven transportation.

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To What Extent Does the Auto Damage the Roads? "Give a dog a bad name and hang him" has seldom been better exemplified than in the case of the accusation against the automobile in the matter of road damage. It must be conceded once and for all that the automobile does wear out the roads—the very best of roads—but whether it does so to anything like the extent that those road supervisors who can only view the matter through prejudiced eyes would have the rest of the world believe, is a horse of quite another color. But it has become quite the fashion to blame the automobile for anything and everything, from the spread of the gypsy moth to a falling off in church attendance, and so it is that on it falls the entire onus of utterly ruining roadways, which, it must be inferred, would otherwise last forever. Both the automobile and the road damage it does are new things, and, as a consequence, there has been too much of heated accusation on one hand, with retort in kind on the other, and far too little calm consideration to have made any progress possible.

The roadbuilder and local taxpayer point with wrath to newly corrugated surfaces and disintegrated top dressings that bear the tell-tale imprint of pneumatic tires, and, in kindred spirit, the autoist resorts to the *tu quoque* argument, calling attention to the road-destroying ruts made by narrow tires and holes dug by sharp iron hoofs. It is high time to recognize the fact that roads cannot be used without wearing out, and everything passing over them contributes to the wear to some extent. But we have been accustomed to the unsightly and destructive ruts and holes of horse traffic ever since there has been such a thing as a road; the damage created by the automobile is something novel. Hence, the primal cause of the road's rapid disintegration is overlooked. Unfortunately, however, the automobile takes up the work where the horse leaves off, and, the evidences of its crime being so different, it is accused of being responsible for the entire damage. It does not take an expert road-builder to show the fallacy of such a theory, and any unbiased observer must admit that the automobile's share of damage does not exceed that of the horse. But a moment's consideration is necessary to show that the automobile has advanced the art of road-building and the spread of good roads more than any other single agency.

TO RACE OR NOT TO RACE, ON CIRCULAR HORSE TRACKS?

IT would appear from the suggestions of the special commission asked to consider the question of continuance of sanction granting by the A. A. A. Racing Board for competition on tracks originally constructed for horse racing, that such future competition will be so hampered with restrictions as to make it more or less prohibitive in many cities where such tracks exist.

The special commission, consisting of S. A. Miles, of the N. A. A. M.; Benjamin Briscoe, of the A. M. C. M. A.; Percy Owen, of the Importers' Automobile Salon, and President William H. Hotchkiss and Racing Chairman Jefferson deMont Thompson, of the A. A. A., held a prolonged session at No. 437 Fifth avenue, Tuesday morning. Charles Clifton, of the A. L. A. M., was unable to be present.

After a thorough and exhausted discussion, it was the opinion of the committee that no definite action on the subject be taken until the various suggestions below embodied should be referred to the several organizations represented on the committee. The suggestions will at once be submitted for action to the various organizations, and another meeting will be held at an early date. In specifying the conditions under which sanctions should be granted, the commission put forth these propositions:

1.—That the application be made through or by a club or organization which is a member of the A. A. A.

2.—That such application be so made at least six weeks before the date set for the contest; provided that in case a sanction has been granted for a contest on such track prior to the date of such application and after the investigation and under the conditions here outlined, such second or other application can be made within a shorter time before the date set for the contest.

3.—That such application be accompanied by a photograph or photographs, showing the turns of such track and the location of the grandstand and public enclosures thereon, and also by an accurate drawing and specifications of the track, fences, and structures adjacent.

4.—That such application be also accompanied by a certificate of such club or organization, that it has examined such track and the fences and buildings adjacent, and that, in its opinion, the contest or contests for which sanction is asked can be held thereon with reasonable safety to spectators and participants; which certificate must contain an agreement upon the part of such club or association that the public will be limited to certain portions of such buildings or grounds (specifying them), and excluded from all other portions thereof.

5.—That such application include the nomination of a person or persons whom or from whom the Racing Board may appoint a referee, who, at such contests, shall be the official representative of such Board, and charged with the duty of compelling the observance of all stipulations specified in such application and sanction, as well as the rules of the Racing Board in particular as to the competency of drivers and the mechanical condition of cars.

6.—That sanctions on such applications be granted by the Racing Board only after an investigation of the track, fences, buildings, and adjacent grounds, to be made by such Board or a member of it or a competent engineer appointed by it for that purpose.

7.—That all sanctions granted by the Racing Board specify

(a) The number of cars which may take part in any heat, and

(b) The upward limit of the horsepower of such cars, the same to be fixed by a formula to be subsequently announced, as to which limit of horsepower and as to which formula the Committee requests the advice of the various organizations represented.

8.—That applications for sanctions be accompanied by a sufficient fee, to be fixed by the Racing Board, to cover all its expenses in connection with the examination of the track and its surroundings, as well as the reasonable compensation and expenses of any referee it may appoint as its representative.

As a part of the proceedings, a report was presented summarizing the vote of the A. A. A. clubs which have, thus far, taken action for or against the granting of future sanctions on horse tracks as now constructed:

In Favor of Sanctions Unqualifiedly.

Milwaukee A. C.
Motor Car Racing Association of Baltimore (Md.).

In Favor of Sanctions but with Restrictions.

Chicago A. C.
Bay State Automobile Ass'n.
Quaker City Motor Club of Philadelphia.

Against Such Sanctions.

Cincinnati A. C.
Massachusetts A. C.
Pittsburg A. C.
Rhode Island A. C.
Rochester A. C.
Buffalo A. C.
Cleveland A. C.
Wilkes-Barre A. C.
Albany A. C.
Wilkinsburg (Pa.) A. C.
Springfield (O.) A. C.
Detroit A. C.
Brockton (Mass.) A. C.
Cass County (Ind.) A. C.
Central Pennsylvania A. C.
Janesville (Wis.) A. C.
Auburn (N. Y.) A. C.
Grand Rapids (Mich.) A. C.
Schenectady (N. Y.) A. C.
Worcester (Mass.) A. C.
Long Island A. C.
Weld County (Col.) A. C.
St. Louis A. C.
Owatonna (Minn.) A. C.
N. J. Auto. and Motor Club.
Lima (O.) A. C.
Peoria (Ill.) A. C.

Against Sanctions in Opinion of Secretaries (No Action).

Oswego (N. Y.) A. C.
Springfield (Ill.) A. C.
Bloomington (Ill.) A. C.

No Action Either Way.

Springfield (Mass.) A. C.
Malden (Mass.) A. C.
Washington (D. C.) A. C.
North Jersey A. C.
New Britain (Conn.) A. C.
Adirondack A. C., Sandy Hill, N. Y.
Binghamton (N. Y.) A. C.

A majority of the clubs so voting, however, expressed the belief that automobile racing should be continued on either specially constructed tracks, or, under restrictions and supervisions which would make such racing safe to spectators and participants. The call for this vote was not sent out until October 7, hence many clubs have not yet taken official action.

TRADE DIRECTORY IMPROVED AND ENLARGED.

Keeping pace with the extraordinary growth of the automobile industry, "THE AUTOMOBILE Trade Directory," published quarterly by the Class Journal Company, Flatiron Building, New York City, has increased in size and importance with each succeeding issue. The October number, which has just made its appearance, has been completely revised and rearranged and contains a number of new features, among them being the listing of trade names as well as manufacturers' names in alphabetical order. The book thus comprises practically a double index of every automobile manufacturer, maker of accessories, and all firms connected with the operation and maintenance of automobiles. As an example of the completeness of this issue it might be mentioned that even such subjects as putty, thread, lamp wicks, etc., are listed. Steel alone has been covered by a dozen classifications, which include all the alloy steels, such as chrome nickel, nickel, manganese, and vanadium steels. The listing of the manufacture of special machinery and machine tools used by manufacturers and repair men alone requires eight pages and over fifty headings.

The growth in size of the publication will best be seen by a comparison with earlier numbers. In April, 1904, "THE AUTOMOBILE Trade Directory" contained 66 pages, 19 advertising pages, and 240 classified headings. The latest number contains a total of 296 pages, 144 advertising pages, and nearly 500 classified headings, and lists about 4,000 companies.

A. A. A. ISSUES A YEAR BOOK.

The A. A. A. has issued its first "Year Book," containing all sorts of information about the national organization of automobilists. There is a brief history of the association since its formation in 1902; chapters on legislative, touring, good roads, and racing boards; lists of officers and club members of the various State associations; copies of the Federal registration bill, and also of the uniform State motor vehicle measure; information as to the plan of forming State associations and clubs; a table of existing State laws; list of road and track racing records, as well as half tones of the officers, and other material. President William H. Hotchkiss is really responsible for the issuing of the "Year Book," the work having been accomplished under his immediate direction. All members of the association will receive a copy of the book, and the first edition will consist of 20,000 copies.

A. A. A. MEETINGS DURING GARDEN SHOW.

Meeting of the A. A. A. Touring Board, Wednesday, Nov. 6, 2 P.M., No. 437 Fifth avenue.

Annual meeting of the A. A. A. Board of Directors, Thursday, November 7, 10 A.M., No. 437 Fifth avenue.

Meeting A. A. A. Racing Board, Thursday, November 7, 3 P.M., No. 437 Fifth avenue.

A. A. A. Good Roads Convention, Friday, November 8, 10:30 A.M., No. 437 Fifth avenue.

Meeting New York State Automobile Association, Friday, November 8, 2:30 P.M., No. 437 Fifth avenue.

EVENTS ARE NOW MULTIPLYING IN CLUBDOM

WORCESTER CLUB BEGINS WINTER SEASON.

WORCESTER, MASS., Oct. 28.—Worcester Automobile Club opened its indoor entertainment season Thursday night, when Colonel Fergus A. Easton told of his 2,140-mile trip through Massachusetts, New Hampshire, Vermont, Canada, and New York the past summer. He was followed in the smoketalk by Captain W. J. H. Nourse, who accompanied him a portion of the trip. This was the longest single trip taken by a Worcester club member this season. Colonel Easton told of the first motor-driven carriage he ever saw, in Glasgow, Scotland, in 1849, and of a previous 1,300-mile trip into Virginia last year in a single-cylinder Cadillac. The last trip of which he told was in a four-cylinder Stevens-Duryea. He ran 1,868 miles before he got a puncture. He found it easier to get a broken spring replaced in Canada than in Albany. He found no roads worthy his commendation outside of Massachusetts. Colonel Easton spoke highly of the information which he received in advance of his trip from the Worcester Automobile Club and the touring board of the A. A. A., both as to rates and customs necessities.

President John P. Coghlan has returned from his trip to London and other British cities. The primary object of the trip was to get the benefit of a sea voyage. C. Leslie Chamberlain, of the club's board of governors, also returned Wednesday from a trip to Europe. J. J. Quinn, of the club, and Mrs. Quinn started last week on a six weeks' tour of Great Britain.

President Arthur D. Van Dyke, of the company which makes the Hatfield buggyabout at Miamisburg, Ohio, a member of the Worcester club, last week registered the first car of that type to be registered in the State. This, with a Holsman registered by John H. Bennett, are the first motor vehicles of this type to be registered in Worcester.

Assistant Secretary Robert M. Pratt, of the Worcester club, has the past week been planting warning signs for motorists on the main route between Worcester and Springfield.

YORK CLUB PROSPEROUS AND OPTIMISTIC.

YORK, PA., Oct. 28.—With a view to promoting interest in the York Automobile Club, the officers have announced that a series of spring tours will be held. The club is in a good financial condition, and the pastime was never more encouraging to the patrons and dealers alike, than at the present time. Announcement has been made that each one of the members of the club will be presented with an official York A. C. flag. This flag will be red and white, with the red body and white lettering, bearing this inscription: "York Automobile Club." A busy winter season is planned by the auto members, and a series of lectures along the general auto line has been suggested.

Local autoists cannot help but look with a sense of pride to the popularity of the York built "Pullman" car, which has sprung into prominence within the past year or two. Extensive improvements are being made at the local plant, and it is hoped by the promoters that next season's output will be nearly doubled.

CONSOLIDATION OF CHICAGO AUTO CLUBS.

CHICAGO, Oct. 28.—There is a possibility that the Chicago Automobile Club and the Chicago Motor Club may be consolidated, and negotiations to this effect are in progress. Probably half of the 140 members of the Motor Club belong to the other organization, which possesses a thoroughly up-to-date clubhouse in Plymouth place and some 500 members. It is understood that the Automobile Club approached the Motor Club in regard to amalgamation, since the latter body appears to have a most energetic contingent of enthusiasts who have conducted several successful events of a competitive nature. The Motor Club will hold a special session, November 12, to vote upon the proposition.

A. C. OF PHILA.'S FIFTH REGULARITY RUN.

PHILADELPHIA, Oct. 21.—Saturday, November 2, the fifth annual regularity run of the Automobile Club of Philadelphia for the H. Bartol Brazier cup will be decided over a cross-country course measuring something over 80 miles in length. Starting from the clubhouse at 8 A.M., the route lies out the Lancaster Pike to Paoli, across to West Chester, thence to the Schuylkill river at Phœnixville, and on through Jeffersonville and Kennett Square to the starting point. The Tours and Runs Committee, which is in charge of the affair, has laid out a time schedule which embraces the best possible time that can be made without fracturing the town and State speed laws. The driver coming nearest to the schedule will be awarded the cup. To prevent overspeeding secret checking stations will be established at various points along the route. As the schedule adopted is well within the powers of any present-day car, there will be no handicaps allowed; the usual two-minute variations allowed for arrival at checking stations will also be cut out. The affair is, to all intents and purposes, a legal speed limit run, and, although not so announced, any competitor who comes in ahead of his schedule may lay himself open to prosecution by the authorities.

GOOD ROADS PRIZES BY MONTREAL CLUB.

MONTREAL, QUE., Oct. 28.—The directorate and several members of the Automobile Club of Canada (Montreal) journeyed this week to St. Genevieve in order to be present at the distribution of prizes offered to the land owners of that municipality through the Council of St. Genevieve in June last for the improvement of the roads in that district. The sum of $200 was divided in three classes of prizes. The first class prizes were for roads over three arpents, second class for roads between one and three arpents, and third class prizes for roads of less than one arpent. The winners were much pleased with the result, and a large number of landowners who had not taken part stated that they were in favor of the movement and that next year they would compete.

Duncan McDonald, president of the club, remarked that the present success has not only made a better feeling between the farmers and autoists in general, but will have the effect of creating more interest next year in improving the roads.

BUFFALO CLUB TO ADMIT WOMEN AS MEMBERS.

BUFFALO, N. Y., Oct. 21.—It has been decided by the board of governors of the Automobile Club of Buffalo that hereafter women autoists may become members of the organization. One applicant has already filed her blank for membership. There are many women in Buffalo who own automobiles and who are desirous of becoming attached to the Automobile Club.

The club now has 1,023 members, no less than 96 new members being added last Thursday afternoon. This makes the Automobile Club of Buffalo the largest local automobile organization in the country. As several applications have been received since last Thursday the directors have deemed it advisable to change the by-laws so as to admit a total membership of 2,000. At present the by-laws admit only a membership of 1,000.

ROCHESTER CLIMB PRIZE GOES TO PACKARD.

ROCHESTER, N. Y., Oct. 28.—As a result of a protest filed by J. J. Mandery against the Franklin car which made a new record of 49 seconds for the course at the annual climb of the Rochester Automobile Club at the Dugway Hill in Penfield, October 19, Mr. Mabbett, who entered the car, has withdrawn it. This leaves G. D. B. Bonbright, with a Packard car, the winner of event No. 11. His time of 51 seconds now stands as the fastest time of the day.

MAXIM TO BRING OUT A LINE OF ELECTRIC VEHICLES

HARTFORD, CONN., Oct. 28.—It has just developed that Hiram Percy Maxim, who quietly severed his connection with the Electric Vehicle Company as chief engineer last summer, to take up a line of work about which no details were forthcoming other than that it had to do with the automobile field, has been working on a new line of electric vehicles. Associated with him is T. W. Goodridge, and the firm title is Maxim & Goodridge, which will also be applied to the vehicles themselves. Both have been devoting their attention to the design of a new electric victoria phaeton, as pleasure vehicles will be turned out at first, though regarding future plans there is nothing definite known at the moment. So far as appearance goes, the new car does not differ perceptibly from any of the existing types, and, in fact, its builders state that such essential parts as the running gear and the like have nothing of novelty about them. But the features in an electric which determine weight suspension, transmission of the power to the driving wheels, noiselessness and simplicity are things to which special attention has been devoted and in the design and construction of which something quite out of the ordinary is promised, which, to quote the designers, "will be considerable of an improvement over anything of the kind thus far produced."

The first car is well under way at the present time and is expected to be complete and on the road very shortly. No announcement will be made, however, until it has been thoroughly tried out in winter service in order to prove the superiority of its design, on the culmination of which full details will be made public, together with a definite schedule of deliveries.

In the meantime it is the policy of the makers to strictly avoid any publicity regarding details, either technical or financial, until they are in a position to deliver a thoroughly tried out car on an exact schedule of dates. All plans have been very carefully laid and the designers are confident that the Maxim-Goodridge electric will find a ready market as soon as it is sufficiently developed to be placed before the public. This is the first authoritative information regarding the plans of the new concern.

AERO CONFERENCE INTERESTS MILITARY MEN.

Owing to the presence of a large number of aeronautical experts in New York, the International Aeronautical Congress, originally planned to be held at Jamestown, took place at the Automobile Club of America, West Fifty-fourth street, last Monday and Tuesday. Representatives of the army and navy, scientists, educators, and most of the contestants in the recent race for the International Aeronautical Cup attended the gathering.

Aeronautics as applied to the military art occupied a large part of the members' attention. General James Allen, head of the United States Signal Corps, told what the United States army was doing and planning to do in the rapid building of an aeronautical branch, and Admiral C. M. Chester, of the United States navy, told what the sea branch of our national defences expected from an aerial squad. Major George O. Squires declared that the dirigible balloon was already regarded by the leaders of military thought as a thoroughly military weapon.

Each of the contestants in the international balloon race gave an account of his experiences in that event, Major Hersey in addition supplying some interesting details on the failure of the Wellman aerial expedition to start on the proposed trip to the North Pole. He declared that Mr. Wellman would repair his airship and make another attempt next summer.

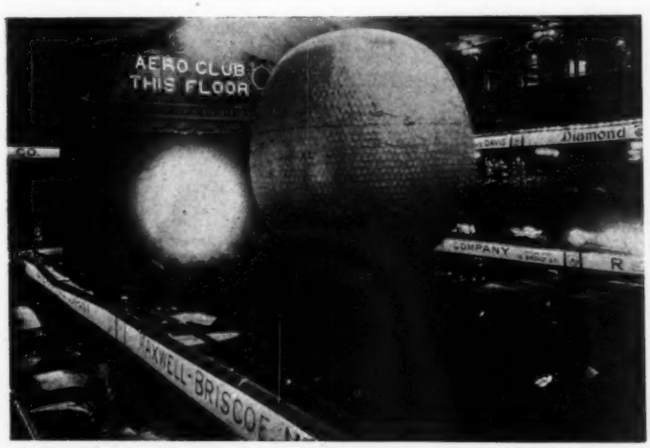
Aeroplane developments were dealt with in a series of papers read before the congress by some of the most prominent men in this branch of arial navigation.

GERMAN AERONAUT TO RECEIVE CUP MONDAY.

Next Monday evening has been fixed as the date of the annual meeting of the Aero Club of America, at the clubrooms, 12 East Forty-second street. At this meeting Oscar Erbsloeh, of the Aeronautical Club of Germany, will be presented with the Gordon Bennett Aeronautical Cup, won by the record flight of the *Pommern* from St. Louis to Asbury Park. The early date of the presentation, although official measurements had to be taken to meet a competitor's objections, is creditable to the Aero Club.

TWO ARTISTIC COLUMBIA CATALOGS.

Two of the finest catalogs of automobiles ever issued in America are the "Electric" and "Gasoline" books issued by the Electric Vehicle Company and descriptive of Columbia automobiles. The drawings and color schemes are the work of Robert J. Wildhack, a painter with studio in Washington square, New York. Wildhack is a Westerner, hailing from interior Indiana, and he combines an artistic conception with a mechanical understanding. He is completing in spare time an automobile of his own design and build. His selection to do the new Columbia catalogue was thus an excellent choice. The frontispieces of the two books in many colors are gems which will be much sought after for framing. Wildhack's strength comes from his knowledge of detail proper to leave out. To this he gives much time and study. His execution is both quick and effective. To realize an eyebrow he employs one touch of a large brush.



CUP WINNER "POMMERN," THAT WAS INFLATED FOR A DAY.

COVER OF ELECTRIC CATALOG OF ELECTRIC VEHICLE CO.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

O. D. Wheeler & Company are erecting a large garage at 19 Maple street, Marlboro, Mass., which will be equipped with a fine machine shop. A complete line of supplies will be carried.

The Mitchell Motor Car Company, of New York City, has made application for membership in the New York Automobile Trade Association. This will make a total of 64 members for the association.

The Merkel Motor Company, Milwaukee, Wis., has discontinued the manufacture of automobile engines and will in the future devote the entire resources of the factory to the production of the Merkel motorcycle.

The Toronto Automobile Company, a newly organized corporation, with a capital stock of $40,000, will erect a factory for the manufacture of autos at Port Arthur, Ont. The site has been purchased and construction of the buildings will begin at once.

The Warner Instrument Company, Beloit, Wis., makers of the Warner autometer, has instituted a department of promotion, in charge of Edgar W. Jordan, formerly advertising manager of the Shaw-Walker Company, of Muskegon, Mich.

Previous to shipping its cars to New York City for the Grand Central Palace Show, the Imperial Motor Car Company, of Williamsport, Pa., gave an inspection party to residents of that city, displaying the first five Imperials and thus giving the home people the first look at them.

Contracts for Franklin automobiles, which have been closed in eight of the principal cities west of Denver, show an increase in each instance of twenty per cent. over the number contracted for last year. This verifies to a certain extent the statements that have been made relative to a greater demand from the West.

The F. A. Brownell Motor Company, of Rochester, N. Y., capitalized at $400,000, will commence the manufacture of automobiles in that city. The directors are F. A. Brownell, W. E. Dunn, William Deininger, George C. Whipple, Robert C. Kershner, Thomas J. Swanton, Burton H. Davy, and Clarence E. Shuster.

The capital stock of the Pittsfield Spark Coil Company, Dalton, Mass., has been increased from $20,000 to $100,000, and the extra $80,000 has been paid in. The increase was made to keep pace with the company's rapidly growing business. Wm. P. Wood is the general manager of the corporation, and United States Senator W. Murray Crane, together with his brother, Zenas M. Crane, have been directors since the plant was moved from Pittsfield to Dalton.

Columbia University will offer during 1907-08 twenty evening courses specially adapted to the needs of technical and professional workers. The courses include work in applied mechanics, architecture, electricity, fine arts, industrial chemistry, mathematics, and surveying and structures. The work begins October 28 and continues twenty-five weeks. A full description of the courses may be obtained on application to the Director of Extension Teaching, Columbia University, New York City.

The Broadway Mammoth Automobile Exchange is now located in its new and absolutely fireproof building, 239-245 West Fifty-sixth street, New York City, where it has an up-to-date salesroom and thoroughly equipped repair shop. The first and second floors are used for showrooms, the third floor for the supply department, and the fourth floor for the repair shop and body factory. Manager L. C. Jandorf has surrounded himself with a corps of able and trained assistants to make visitors welcome.

A somewhat incongruous typographical error occurred in the advertisement of the Tincher Motor Car Company, of South Bend, Ind., on page 105 of THE AUTOMOBILE of October 17. The time of the special 3-mile match race run at Milwaukee, September 21, was made to appear as "11 minutes flat." This was due to the fact that the summary of the 10-mile free-for-all event, which was also won by Allen Pirie on a Tincher, was inadvertently omitted, and the time—11 minutes—followed the summary of the 3-mile event. Eleven minutes was the time made in the 10-mile event.

One of the biggest tire contracts of the year has just been consummated between the Cadillac Motor Car Company, of Detroit, and the Hartford Rubber Works Company, Morgan & Wright, and the G & J Tire Company. This is especially significant in view of the fact that this is the fourth consecutive year that the rubber goods interest has held the contract in spite of keen competition. The terms of the contract specify that the Cadillac company will use the goods of the above companies exclusively on their 1908 product; and, moreover, that they will adopt as standard equipment on all 1908 cars the new Midgley universal rims.

One of the most complete books of its kind that has appeared is being distributed at Grand Central Palace by the American Motor Car Manufacturers' Association under the title of "Leading American Cars." It contains complete specifications of the 170 models made by the 51 members of the association, ranging from the $500 Brush runabout to the $7,000 Austin. The pleasure vehicles are classified separately from the commercial vehicles. The book contains a brief history of the association, an index of the cars described, all the important records, and a number of important firsts in automobiling, such as the first race winner, the first tour, and hill climb, and similar events.

RECENT BUSINESS CHANGES.

The Linkroum Automobile Company, of Newark, N. J., succeeds the Linkroum-Smelser Automobile Company, owing to the recent death of L. W. Smelser. S. H. Stern, formerly assistant manager of the Michelin Tire Company of America, is a new member of the company. The Linkroum Company will have the exclusive selling rights of the Lozier line in Central New Jersey.

The garage business of the Palmer & Singer Mfg. Co., of New York City, distributors of the Matheson, is to be conducted in the future by the Knickerbocker Garage Company. The officers of the latter company are the same as those of the former. The Knickerbocker Company will take over the garage business of the Palmer & Singer Mfg. Co. when the latter moves into its new five-story building, in about two weeks. Practically every owner of a Matheson car in New York, as well as many other autoists, have reserved space in the new garage.

NEW AGENCIES ESTABLISHED.

N. L. Merwin, of Amsterdam, N. Y., has taken the Lozier line for Fulton and Montgomery counties, in the State of New York.

J. S. Russell, of New Orleans, has contracted for the Glide agency, and will organize a company at once to handle the Glide line in the State of Louisiana.

Owing to the great demand for the Jones speedometer in France, the Jones Speedometer Company has opened a branch house at 88 Boulevard de Courcelles, Paris, in charge of Rudolph Simonetta.

Mr. Dilley, of Los Angeles, Cal., one of the largest auto dealers in that State, has taken over the Pacific Coast representation of the Autocar. Arrangements were concluded when Mr. Dilley visited the Autocar factory at Ardmore, Pa., last week.

Arrangements have been made for the sale of Brush runabouts in Illinois by the Pardee Motor Company, of 1229 Michigan avenue, Chicago. Fred J. Pardee, a pioneer dealer and one of the oldest members of the Chicago automobile trade, is at the head of the company.

The new Philadelphia branch of the Firestone Rubber Company, located at 256 North Broad street, will open for business on November 1. The establishment, which has an area of 14,250 square feet and is complete with all modern facilities for the application and repair of tires, will be in charge of W. R. Walton.

Sales Manager W. C. Metzger, of the Cadillac Company, gives information concerning the appointing of G. J. Grossman as New York agent for the Cadillac. Mr. Grossman is the owner of the big garage at White Plains, N. Y., claimed to be the largest in the country. It has 21,600 square feet of space on one floor.

November 1 the Babcock Electric Carriage Company will open a branch house in New York City at 1591 Broadway, corner Forty-eighth street. H. E. Wagner, formerly connected with Wyckoff, Church & Partridge, and who had charge of the Babcock line with that house, has been appointed eastern sales manager with headquarters at the new branch.

Among European products recently introduced to the American trade are the patent non-skidding rivets and the Edco spark plug, manufactured by Edouard Dubied & Company, of Couvert, Switzerland, and the chrome leather made by Cavernier & Quezin, of Paris. These firms are represented in the United States by Chas. Dien, 43-45 West Thirty-fourth street, New York City, who has already closed several good contracts with American manufacturers for their use on 1908 products. Mr. Dien is also the American representative of the Touring Club of France.

PERSONAL TRADE MENTION.

Vice-President H. E. Coffin, of the E. R. Thomas Detroit Company, will sail for Europe November 6, for a two months' study of trade conditions and development in England, France, and Italy.

J. C. Matlack has been elected vice-president and general manager of the Michelin Tire Company of America. C. C. Harbridge, who is well known in the selling trade, is to have the managership of the Chicago branch.

C. P. Brown, formerly of the Motor Car Equipment Company, of New York City, has been appointed manager of the Motor Mart Sales Company, factory distributors of automobile accessories, with headquarters in the Motor Mart, Broadway and Sixty-second street, New York City.

Clarence A. Saffle has been appointed Pacific Coast representative of the Warner Instrument Company, of Beloit, Wis., with headquarters at San Francisco, and with California, Washington, and Oregon as territory. Mr. Saffle was formerly connected with the Underwood Typewriter Company.

Ben Blumenthal, proprietor of the West End Auto Palace, was elected a director of the New York Automobile Trade Association, at the last meeting of the board of directors of that organization, to succeed Carlton P. Mabley, who resigned from the directorate because he is no longer actively engaged in the sale or storage of autos.

T. F. Smith will succeed A. F. Chase as manager of the Maxwell-Briscoe Chase Company, Chicago, Ill., and George Holden, of Detroit, will succeed A. S. Johnson, secretary of the above firm. Mr. Smith comes from the National Cash Register Company, having resigned as sales manager of the Chicago branch to accept his present position.

M. C. Krarup, the well-known writer on automobile subjects, has become interested with the firm of John Crowley & Company, 120 Liberty street, New York, in the importation of crucible nickel and chrome-nickel steels and forgings, from the Krefelder Stahlwerk, of Krefeld, Germany, and will take charge of the automobile end.

Percy S. Cradock, of the firm of George Cradock & Company, of Wakefield, England, manufacturers and specialists of fine quality alloy steels for the automobile trade, is in New York for the purpose of appointing an agent for his firm's products. Mr. Cradock is stopping at the Holland House and can be seen until November 6 by appointment.

Welton H. Flynn has been appointed assistant sales manager of the Acme Motor Car Company, of Reading, Pa., and will be in charge of the eastern territory. In securing the services of Mr. Flynn the Acme company obtains the services of a popular representative. He will make his headquarters with the New York agents, J. B. Brewster & Company, Seventh avenue and Forty-ninth street, New York City.

Directors Tischlein and Gerlach, of the Continental Caoutchouc Company, have arrived in New York from Hanover Germany, and have been in attendance at the Grand Central Palace automobile show. They will return to Europe at the end of this week. Manager Gilbert, of the American branch of the Continental Company, is receiving congratulations on the showing of the business done in this country.

Recent changes in the E. R. Thomas Detroit Company, of Detroit, Mich., makers of the Thomas Detroit, include the appointment of John G. Utz as chief engineer, with G. G. Behn as his assistant. Mr. Behn is well known in the trade, having been associated with the industry prior to entering Cornell University in 1898, and after his graduation in 1902. Mr. Behn has had a wide practical as well as theoretical experience in all branches of auto construction.

FANNING MAKES CHANGE.

Frank J. Fanning, long connected with the Haynes Automobile Company, of Kokomo, Ind., as sales manager, has resigned to accept a partnership with James Levy, of Chicago, agent for the Autocar and other cars. Mr. Fanning has been succeeded by C. B. Warren, who has for a long time been manager of the New York agency of the Haynes company. Mr. Warren, during his term of office in New York, has been most active in his position, having disposed of more Haynes cars in New York than were ever disposed of by a former manager, and also having won for the Haynes sterling honors in all events open to him in New York. Mr. Warren will be located at Kokomo, but will have general charge of all the agencies.

"WON'T SLIP."

They hold their own; they hold the road,
And at no curve need they be slowed;
Upon the earth they keep their grip—
And Bailey Tread Tires won't slip.

They're Tires that hold the right o' way,
They've come to go and come to "stay"
And while you go the merriest clip
The Bailey Tread Tires won't slip.

They're "knobby" Tires that stand all strain,
The "Rubber Studs" are safe and sane;
The stretch of ice you need not skip
For Bailey Tread Tires won't slip.

For Auto, Auto-Bi or Bike,
They lead in speed on track and pike,
They neither ravel, rend nor rip,
And Bailey Tread Tires won't slip.

They "corner" all the turns with ease;
No "heart in mouth" if you have these;
No sudden short turn brings a tip
For Bailey Tread Tires won't slip.

They are not skidders that skidoo,
All roads are pleasure roads to you;
The "Won't Slip" Tread says every lip,
Is rightly named "Won't Slip."

—(A. W. B.)

NEW TRADE PUBLICATIONS.

Ejector mufflers manufactured by the Motor & Manufacturing Works Company, Geneva, N. Y., are illustrated and described in a new sixteen-page handbook just issued.

A detailed route card showing the best road from Chicago to South Bend, Ind., has been issued by the Studebaker Automobile Company, of South Bend, Ind. The journey is treated in both eastern and western directions.

Descriptive of the various models of the Schacht Auto-Runabout, an automobile of the improved buggy type, the Schacht Manufacturing Company, of Cincinnati, O., has issued an attractive illustrated catalogue.

Scenes on the road and peeps into the showroom elbow one another in Number 7 of the *Reo Echo*, devoted to the interests of R. M. Owen & Company. Editor Gogarn presents an aftermath of the Glidden Tour, in which the Reos were well to the fore, and puts forth a sketch of his company's features for 1908.

Bulletin Fourteen from the White Company, Cleveland, deals with the most important contests entered with conspicuous success by White steamers. Prominent among them are the Glidden tour, the London town carriage test, the Harrisburg endurance run, the Cleveland hill climb, the Wilkes-Barre hill climb, and a number of prominent events abroad. The booklet, which is illustrated and printed in colors, contains a map of the Glidden tour route.

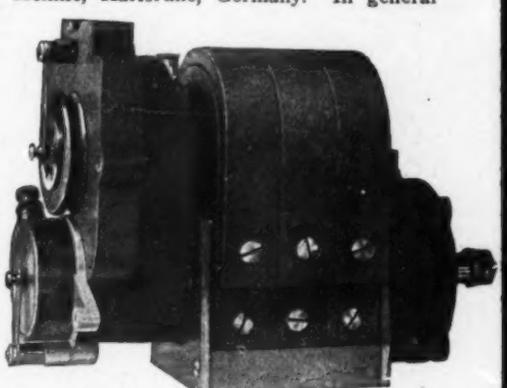
INFORMATION FOR BUYERS.

Brass Specialties.—The G. W. Murphy Company, Merrimac, Mass., are manufacturing an extensive line of brass specialties specially designed for automobile use, and among which they call special attention to their assortment of door handles. These are shown, together with their corresponding fittings, in a wide variety of styles in polished brass, nickel or silver-plate, and are made either with slotted screw washers, flat washers or escutcheon plates. The plated finishes are of the Murphy standard plate, and are guaranteed by the makers to wear. The designs listed are largely ex-

ONE OF THE MURPHY DOOR HANDLES.

clusive with this house, and all door handles are guaranteed to have perfectly fitted washers and true shanks. In addition to door handles they also make a specialty of the Murphy curtain fasteners, which have been designed especially to meet the requirements of the automobile and motor boat. They are covered by patents, and it is the claim of the makers that they will not release the curtains under any stress of weather or vibration.

U. & H. Magnetos.—The J. S. Bretz Company, Times Building, New York City, who are agents for the F. & S. annular ball-bearings and Hartford universal joints, have taken the U. S. agency of a new high-tension magneto made by Unterberg & Helmle, Karlsruhe, Germany. In general



UNTERBERG & HELMLE MAGNETO.

construction and operation it is similar to the standard types, but has an unusual feature in the shape of an easy starting device. This consists of an arrangement whereby the armature may be given part of a turn at high speed, producing a hot spark irrespective of the position at which the interruptor is set to operate. During this partial revolution the speed of he armature is entirely independent of the rate at which it is turned by the crankshaft of the motor while in service. The device is in operation only while the motor is being started, being automatically disengaged. The spark is automatically retarded by this starting device, which makes it unnecessary either to spin the motor or resort to the compression relief. The armature differs from standard types in having both the condenser and interruptor mounted in a separate housing. The spark gap is of improved construction, and is provided with mica windows. Both low and high-tension types are made for two, three, four or six cylinders, as well as an oscillating type for stationary use.

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